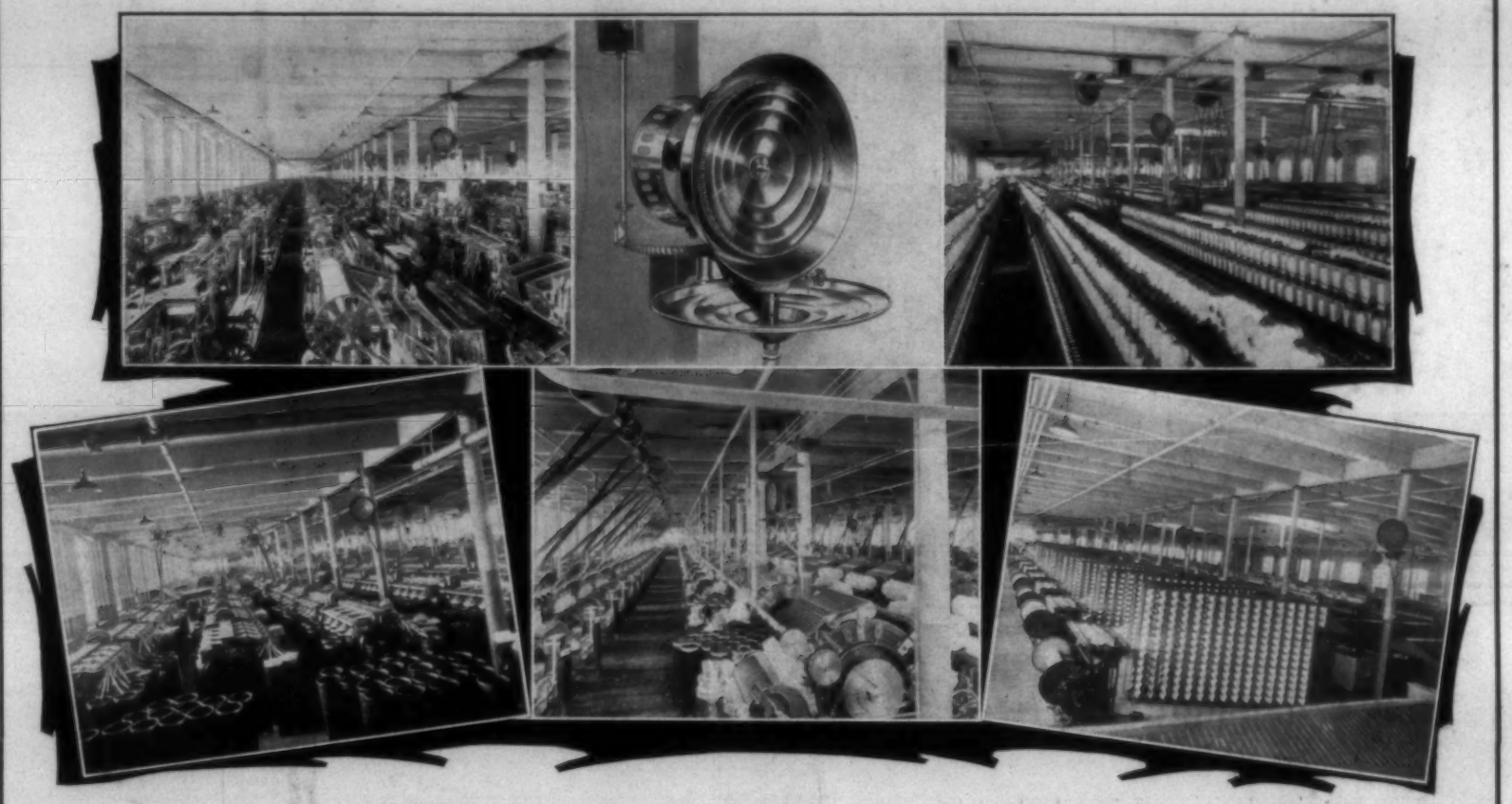
SOUTHERN

TEXTILE BULLETIN

VOL. 32 CHARLOTTE, N. C., THURSDAY, JULY 7, 1927 NUMBER 19



A vista of the Bahnson Humidifiers installed throughout the plant of Fisher Manufacturing Company, Fisherville, Mass.

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Classified Index to Advertisers Page 40

AN UNUSUAL OPPORTUNITY

COTTON MACHINERY AND COMPLETE EQUIPMENT OF THE
POCASSET MANUFACTURING COMPANY
OFFERED FOR IMMEDIATE SALE

No expense has been spared to keep the machinery and equipment of this mill in first-class running order. All engineers who have inspected it, have commented upon its excellent condition. Even during the short period that the mill has been shut down heat has been in all buildings and the machinery given proper care.

Bale Breaker

1 Howard & Bullough 46 in. Apron 6 ft. long, Tin Hopper.
1 Waste Machine Kitson—Two Section Type W 24.

Pickers

4 40 in. Howard & Bullough Breaker Pickers, 1 beater Auto feed.
3 36 in. Potter & Atherton Breaker Pickers, 1 beater.
4 40 in. Howard & Bullough Intermediate Pickers
4 36 in. Potter & Atherton Intermediate Pickers.
4 40 in. Howard &Bullough Finisher Pickcrs, 1 beater.
5 36 in. Potter & Atherton Finisher Pickers.
1 Howard & Bullough Automatic feed with 7 openings.

Cards

15 Howard & Bullough Revolving Flat Cards 40 in.- 12 in. coilers 26 in. Doffer.
37 Howard & Bullough Revolving Flat Cards 40 in.-12 in. coilers 26 in. Doffer.
7 Howard & Bullough Revolving Flat Cards 40 in.- 12 in. coilers 26 in. Doffer.
14 Howard & Bullough Revolving Flat Cards 40 in.-12 in. coilers 26 in. Doffer.
26 Howard & Bullough Revolving Flat Cards 40 in.- 12 in. coilers 26 in. Doffer.
3 Whitin Revolving Flat Cards 40 in.-12 in. coilers 27 in. Doffer.
3 Whitin Revolving Flat Cards 40 in.-12 in. coilers 27 in. Doffer.
49 Saco Pettee Revolving Flat Cards 40 in.-12 in. coilers 24 in. Doffer.
1 Mason Revolving Flat Card 40 in.-12 in. coilers 27 in. Doffer.
1 Vacuum Stripping System, (Cook), capacity of 160 Cards, complete with Receivers and Hose.

Drawing

27 Heads Howard & Bullough, 4 del. each 8 del. 12 in. bal. 10 in. coilers. Electric Stop Motion.
49 Heads Howard & Bullough, 6 del. each 30 del. 12 in. bal. 10 in. coilers. Electric Stop Motion.

Slubbers

13 Howard & Bullough — 72 spindles each 12 x 6 with hank counters.

Intermediates

9 Howard & Bullough 10 x 5 — 96 Spindles Each 6½ in. Gauge.
26 Howard & Bullough 10 x 5 — 108 Spindles Each 7 in. Gauge.

Fine Speeders

8 Howard & Bullough 8 x 4—144 Spindles Each
47 Howard & Bullough 7 x 3½—176 Spindles Each
6 Howard & Bullough 7 x 3½—168 Spindles Each

Spoolers

3 Saco-Lowell 108 spindles each, 4¾ gauge, Band Driven.
3 Draper 100 spindles each, 4¾ gauge, Band Driven.
1 Easton-Burnham 120 spindles each, 4¾ gauge, Band Driven.
2 Easton-Burnham 80 spindles each, 4¾ gauge, Band Driven.
1 Easton-Burnham 60 spindles each, 4¾ gauge, Band Driven.

Slashers

2 Lowell 2 cylinders, 56x84 front, 56x60 back, 2 copper rolls, 7 beam creel.
3 Howard & Bullough 2 cylinders, 56x84 front, 56x60 back, 2 copper rolls, 7 beam creel.
5 Sets Iron Hoods, 1 over each 84 in. cylinder, and 1 over each size chest, and 2 B. F. Sturtevant steel fans, Style 60, No. 782.
4 Size Kettles 160 gal. each with agitators.

Warpers

9 Draper 54 in. wide, drop wire stop motion, adjustable combs, 456 spool creels.
12 Hopedale 54 in. wide, drop wire stop motion, adjustable combs, 456 spool creels.

Drawing-in Machines

2 Barber-Colman
Style 2 T 5 Bank No. 295.
Style 2 Q 5 Bank No. 30.

Banding Machines

2 Cole Bros. 14 ft. long 12 in. wide at carriage base.

Trimmers

3 Woonsocket 48 in. with back beam rack and overhead roll cloth.
1 Woonsocket 60 in. with back beam rack and overhead roll cloth.
2 Woonsocket 45 in. with back beam rack and overhead roll cloth.

Folders

1 J. D. Elliot 42 in. One Yard Fold adjustable.
1 J. D. Elliot 47 in. One Yard Fold adjustable.
1 J. D. Elliot 54 in. One Yard Fold adjustable.

Sewing, Rolling and Measuring Machines

1 Dinsmore 48 in. with dial counter attachment (Power).
1 Curtis & Marble 48 in. Hand Operated.

Baling Presses

1 Bushnell No. 402, 30 in. x60 in., 72 in. opening, Heavy knuckle joint.
1 Lowell Hydraulic with plunger pump.

Nappers

1 Grosselin-Fils, 105 in. single acting 14 Rolls—3 3-16 in. dia. with steam cylinder suction vents at base of machine.

Power Equipment
Engines

1 Greene, cross compound 26 in. x 48 in. x 60 in. stroke. 1500 H. P. 80½ RPM.
1 Rice Sargent, cross compound 26 in. x 52 in. x 60 in. stroke. 1500 H. P. 62½ RPM.
1 Valley Iron Works, horizontal, single cylinder, 9 in. x 10 in. stroke. 35 H. P. 325 RPM.
1 Atlantic Machine Works, single cylinder, vertical 5 in. x 6 in. stroke, 10 H. P. 250 RPM.
1 Buckley Jet Condenser 20 feet.
1 Buckley Jet Condenser 30 feet.

Boilers

5 Aultman-Taylor, water tube, steam drum 42 in. dia. x 23 ft. 6in., 162 tubes, 4 in. dia. 350 H. P. Horizontal. Hand Fired. Smoke Flue 5 ft. x 8 ft. x 124 ft. sheet metal.

Pumps

1 Warren Steam Pump Co., duplex, horizontal, direct acting 10 in x 10 in. x 12 in.
2 I. B. Davis & Son, duplex, vertical, gear driven, 8 in. x 8 in. with counter shaft.
1 Warren Steam Pump Co., duplex, horizontal, direct acting 4½ in. x 4 in. x 4 in.
1 Deane, horizontal, single, direct acting 12 in. x 14 in. x 8 in.
1 Trap, steam, 1½ in. (Crane) tilting.
1 Trap, steam, 1 in. (General Fire) tilting.
1 Trap, steam, 18 x 24, (Strong, Carlisle & Hammond).
1 Trap, steam No. 6 Model D. (V. B. Anderson).
2 Feed water heaters, 42 in. dia. x 10 ft., lagged steel shell.
1 Feed water heater, 40 in. dia. x 10 ft., lagged, steel shell.
1 Cameron Steam Pump Co., single horizontal, direct acting 5 in. x 5 in. x 8 in.
1 Damper Regulator, (Locke Regulator Co.)
1 Steam Regulator, 18 in. x 32 in., (Warren Steam Pump Co.)
1 Steam Indicator (Crosby).
1 Pressure Gauge Recorder (Bristol)
1 Oil Pump, 1½ in x 4 in., vertical.
1 Oil Feeding System (Sterling Lubricator Co.)
1 Receiver, steam, 40 in., x 10 ft., steel shell.
1 Receiver, steam, 32 in. x 5 ft., steel shell.
2 Inspirators 3 in. Pipe (Hancock).

Generators

1 Sprague Electric Co., D.C. type D. 42½ KW, 340 amp., 125 volts, 950 RPM. Belt Driven.
1 Commercial Electric Co., D.C., 240 amp., 125 volts, 760 RPM. Belt Driven.
1 General Electric Co., D.C. type C.L. class 6-75-550, form B, 660 amp., 125 volts, 550 RPM. With counter shaft. Belt driven.
1 Fort Wayne, Motor Generator Set. type MCC, form D, 110 volts. 2.25 amp. 1700 RPM., Generator type MCC, form D, 35 volts, 3 amp. Belt driven, with counter shaft.

1 F. J. Hoxie, Swithchboard, late, (3 panels) 8 ft. x 5 ft. with 3 Weston volt meters, 120 volt, 1 Weston ammeter 400 amp., 1 Weston ammeter 300 amp., 1 Weston ammeter 800 amp., 3 rheostats, 3 switches D. P. D. T., 3 switches S. P. D. T.

Drinking Water System

Audifren Machine Company drinking water system cooled and pumped with Audifren Singrun System, complete with 22 bubblers.

Bobbin Stripping Machine

1 Roving bobbin stripping machine, single head.

Bobbin Winder

1 Bobbin winder, 9 spindles, 5 in. gauge, 18 Horizontal bobbin spindles.

Bobbin Reamer

1 Bobbin Reamer, countershaft attached to wooden stand 24 in. x 18 in. x 30 in. high.

Motors

1 Motor, D. C. 10 H. P., 8 amp., 110 volt, 950 RPM. Phoenix Electric Co. Starting Rheostat, type S. A., form P. 1, 10 H. P., 110 volts. General Electric Co.
1 Motor, D. C., 10 H. P., 74.5 amp., 115 volts, 650 RPM. Complete with type S. A. form P. 1 Starting Rheostat. General Electric Co.

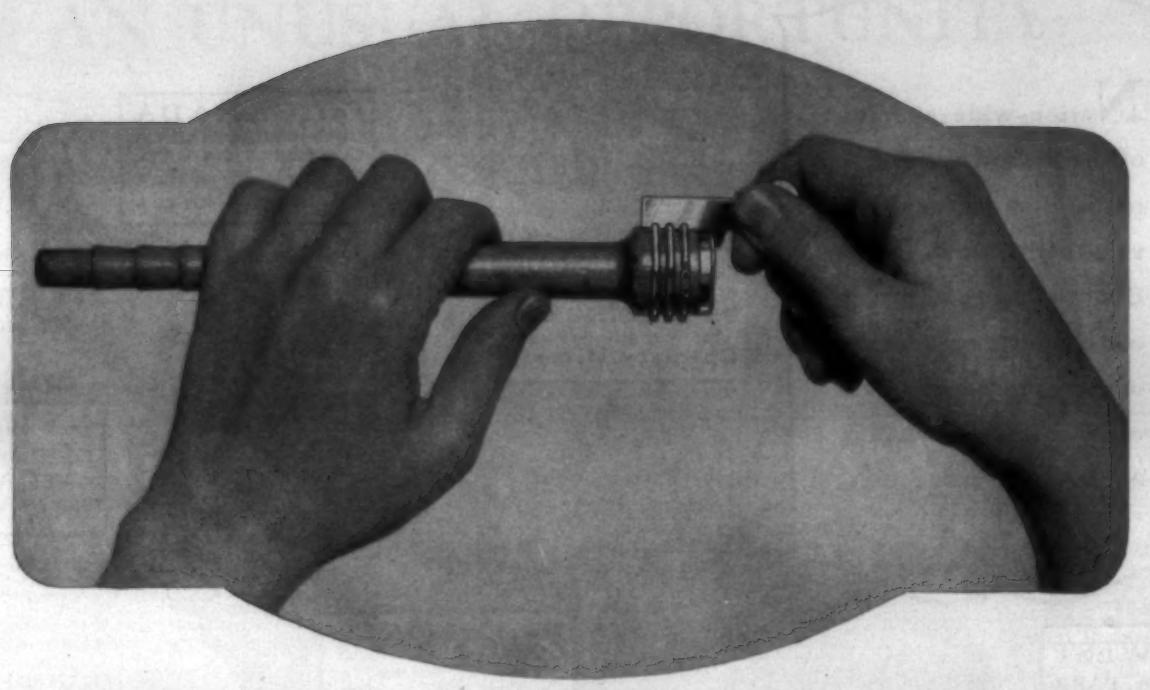
Complete Stock of Supplies:

Bobbins, Spool, Skewers, Heddles, Reeds and Harnesses, Warper Beams, Oil Cabinets, Shuttles, Lap Rods, Metal Safety Guards, Belting, Shafting, Pulleys, Hangers, Roving Cans 10 in. and 12 in., Trucks Wooden and Sheet Metal.
Repair parts for Card, Spinning, Spooling and Weaving Equipment.

Machine Shop

Band Saw 26 in., with 2 ft. x 3 ft. iron table.
Engine lathe, 16 in. x 6 ft. countershaft and back rest ,change gear complete to cut threads from 3 to 25 pitch.
Chucking lathe, 24 in. x 6 ft., 36 in. between head and tail stock with drill rest.
Engine lathe, 26 in. x 12 ft., 7 ft. 6 in. between centers with countershaft and back rest, change gears complete to cut threads from 1 to 10 pitch.
Engine lathe, 14 in. x 8 ft., 5 ft. 6 in. between centers, countershaft and back rest, change gears to cut thread from 4 to 30 pitch. Putnam Machine Co.
Engine lathe, 20 in. x 11 ft., 6 ft. 6 in. between centers, countershaft and back rest, change gears to cut thread from 2 to 12 pitch. Thomas and Co.
Speed lathe, 12 in. x 4 ft., 36 in. between centers, countershaft complete. Putnam Machine Co.
Flat turret lathe, 24 in. x 2 ft. x 9 ft. with cross slide equipped for bar stock. Jones & Lamson Machine Co.
Turning lathe, 24 in—24 ft. between centers, chain drive.
Double end emery wheel stand with 2 wheels and countershaft. Wheels, 18 in. diameter, 12 in. face 1 in. hole.
Horizontal Universal milling machine No. 3 countershaft, Indian Head and Vise. Brainard Milling Machine Co.
Bolt cutting machine No. 1 with countershaft, Dies to cut from ¼ in. to 1¼ in. bolts. Putnam Machine Co.
Upright drill—16 in. table, countershaft complete.
Centering machine and counter complete. Will take stock from ⅛ in. to 3 in.
Grindstone—6 in. face, 36 in. diameter, 1½ in. sq. hole and stand for same.
Combination upright drill and slotter, 26 in. table, countershaft complete.
Planer, 24 in. x 7 ft. platen. Putnam Machine Co.
Pipe threading machine and dies to cut from 1 in. to 6 in. Curtis and Curtis.
Duplex power hack saw, 3 in. stoke, direct drive.
Sensitive drill, 8 in. table, 12 in. head, countershaft.
Wood boring machine, wood frame, 6 in. lift, will take any size bit ⅛ to 1 in.
Circular saw—14 in., with 3 ft. x 4 ft. adjustable bench. S. A. Woods.
Wood turning lathe—20 in. swing, 9 ft., between centers, wood frame.
6 in. Pipe cutting machine. Forbe Co.
1 Anvil, 175 lbs.
1 Anvil, 250 lbs.
1 Forge 4 ft. x 2½ ft. fire pan, tin canopy, with 12 in. flue pipe.

Apply to POCASSET MFG. CO., Fall River, Mass.



Standards are of No Value Unless Adhered to

Butt and tip are gauged as accurately as the rings.

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UNIFORMITY IS THE ACID TEST THAT YOU ARE INTERESTED IN

A LARGE percentage of the smashes on automatic looms are caused by improperly constructed bobbins.

Without accurately made bobbins, the automatic bobbin-changing loom must necessarily be a failure.

When these looms were first introduced, the U S Bobbin & Shuttle Company developed and perfected the automatic loom bobbin, and for seventeen years, the duration of the original patent, was the exclusive manufacturer.

Rings must be straight and not wavy so that spacing will be uniform. We gauge every ring to make sure they are straight. Rings must all be of just the right temper and spring so that they will not get loose or break. We temper our own in electric ovens, controlling the tempering process scientifically so that every ring is alike.

We are unique amongst bobbin makers, in that we "roll our own" rings from start to finish to make sure that faulty rings do not undo the painstaking care we use in selecting the stock and the operations of boring, reaming, shaping, sizing, and finishing automatic loom bobbins.

It takes four of our factories to produce the millions of better automatic loom bobbins called for every year.

Have you tried them? Place your order to-day. Write, phone, or wire for service.

U S BOBBIN & SHUTTLE CO.

GREENVILLE, S. C.

BUILDERS OF BETTER BOBBINS, SPOOLS, AND SHUTTLES

U S salesmen are specialists on bobbins, spools, and shuttles. Order direct from U S for real helpful and understanding service

SOUTHERN TEXTILE BULLETIN

PUBLISHED EVERY THURSDAY BY CLARK PUBLISHING COMPANY, 18 WEST FOURTH STREET, CHARLOTTE, N. C. SUBSCRIPTION $2.00 PER YEAR IN ADVANCE. ENTERED AS SECOND CLASS MAIL MATTER MARCH 2, 1911, AT POSTOFFICE, CHARLOTTE, N. C., UNDER ACT OF CONGRESS, MARCH 3, 1897.

VOL. 32 CHARLOTTE, N. C., THURSDAY, JULY 7, 1927 NUMBER 19

Visiting Europe

By David Clark

HAVING decided to attend the international meeting of Rotary Clubs, known as the annual convention of Rotary International, at Ostend, Belgium, I left Charlotte for New York on May 24th, accompanied by Mrs. Clark, Mr. and Mrs. Hamilton C. Jones and Miss Rosalie Burbank, of Charlotte, and in New York I was joined by Walter B. Pratt, of Charlotte. Walter Pratt and Ham Jones are, like myself, members of the Rotary Club of Charlotte, the only difference being that I was recently elected District Governor of the Fifty-eighth Rotary District, which is composed of all of South Carolina and the lower half of western North Carolina. Salisbury, Hickory and Asheville are in my district, but I have no towns north of them.

A Rotary Club is an organization which admits only one man from each kind of business in a community; that is, they admit one lawyer, one banker, one druggist, one print cloth manufacturer, etc., and when one is admitted a second man in the same business or profession can not be admitted.

Rotary Clubs engage in civic and community work, but their greatest feature is fellowship and friendship created between the members of the club. In a Rotary Club every member calls every other member by his first or given name and the same thing applies when meeting Rotarians from other clubs.

The first Rotary Club was organized in Chicago in 1905 and there are now about 2,000 Rotary Clubs in the United States and Canada.

About 1918 it took root in England and spread rapidly there, and about three years ago invaded other countries.

There are now Rotary Clubs in forty countries of the world, and as the movement is spreading very rapidly, it is predicted that within three years the number of clubs outside the United States and Canada will exceed those in this country.

One of the objects of Rotary International is the promotion of understanding and friendship between the nations of the world and it is certainly accomplishing results far beyond the dreams of its organizers.

The annual conventions have usually been held in the United States or Canada, but one was held in Edinburgh, Scotland, in 1921, and the 1927 convention was set for Ostend, Belgium, and six ships of the Cunard line were chartered to carry the Rotarians from the United States and Canada.

At noon on May 25th the New York Rotary Club gave a farewell dinner to about 3,000 who were embarking for Ostend and at that dinner I found that the man on my right was Tom Mackey, a cotton goods importer of Aukland, New Zealand. He had traveled 19 days across the Pacific ocean, crossed the United States and he went across the Atlantic with me, as did another New Zealand man, Harry Guthrie. They had to make a trip of 12,500 miles in order to reach the Ostend convention and to go the same distance home.

At the convention there were ten men from Australia who had made a trip of over 14,000 miles, and the fact that men will go such distances shows that there must be something in the Rotary idea.

The Rotary Club fleet sailing from New York consisted of six Cunard line steamers. The Carinthia, Samaria and Lancastra sailed late on the afternoon of May 25th, while the Aurania, Caronia and Carmania sailed at 10 a. m. May 26th.

As our ship, the Carmania, pulled out from the dock the Caronia was just ahead of us, but we did not see it until eight days later, when we came along side of it when passing Dover, England.

The second day of our trip was rough and many people were seasick, but otherwise we had beautiful weather.

As all on board the Carmania were Rotarians or their wives or friends, a committee was in charge of the entertainment on board and there were Rotary meetings each morning and dances or other entertainment every night.

On the top deck there were games such as shuffle board, deck tennis, which is played with rubber rings thrown by hand instead of balls and rackets, and several other games.

The game that I enjoyed was deck golf, which is played with wooden blocks, about six inches in diameter, called pucks. Seven circles, called holes, are marked off on the deck and the pucks are pushed or shot along the deck with long paddles. The object is to get the puck into each of the seven holes beginning at No. 1. When the puck is shot fully into one of the circles, the player has another shot, but the trouble is that it is difficult to get it entirely within the circle, and if it is even a fraction on the line it must be left and an opponent has the opportunity of knocking it out.

When you shoot your puck so that it hits the puck of your partner or either of your opponents you get another shot.

When hitting your opponents you knock them as far as possible, and as the life boats are on the side of the deck, the favorite shot was to hit the puck of an opponent so that it went under a life boat. As Walter Pratt weighs 220, it was great sport to see him get down upon his knees and shoot from under the boat and his remarks upon such occasions greatly amused those watching.

Usually a Rotarian we called "Mugs" played with me against Walter Pratt and another fellow called "Doc" and the noise we made together with the remarks of Walter Pratt always collected a large gallery. At the end of one baseball season the Charlotte baseball team presented Walter Pratt with a medal as the champion rooter and he showed some of the same ability when playing deck golf.

There was so much doing on board that the days passed quickly and we found ourselves in sight of the English coast on Friday morning, June 3rd.

On the Carmania there were men from almost every State and a great many from Canada. There were two from New Zealand and one from Cuba.

I came to know most of them and made many warm friends.

On Friday we passed around the southern coast of England and about 5 o'clock that afternoon came along side, one of the sister ships of the Rotary fleet, the Caronia.

We were not close enough to recognize anybody or understand anything they said, but we could hear their cheers and songs and we responded in like manner.

That night we anchored off Flushing, Holland, but as the other ships were ahead of us, we had to wait until 2 o'clock Saturday before being transferred to a tender or small ship and could start a two-hour ride to Ostend, Belgium.

On the way to Ostend we passed Zebrugge, Belgium, which the Germans seized during the early days of the war and used as a submarine base.

Ostend is a second Atlantic City and is the greatest summer resort in Europe. It has a tiled promenade instead of a board walk.

We reached Ostend at 4 o'clock Saturday afternoon and went to the Hotel L'Ocean, to which we had been assigned and which was a high class hotel.

Before Mrs. Clark decided to accompany me, I had been assigned with Walter Pratt to the Hotel Regent and Walter went there but later showed up with the statement that it was an awful dump and that he was not going to stay there.

As there were over 7,000 people attending the convention, the hotels were taxed to the limit, but it was hard luck that Walter drew such a hotel. He stayed there for two nights and then left for Huddersfield, England, where his firm, Joseph Sykes Bros., are located.

On Sunday morning at 9 o'clock we left on a visit to the battle fields of Belgium.

When the Germans entered the war in 1914 they sought to reach France and Paris by making a drive through Belgium and very nearly succeeded.

They captured Ostend and some of the territory beyond but were stopped a few miles from Ypres and their front line for several years ran from Ypres to Dixmude to Nieuport.

A few miles from Ostend we visited a big gun with which the Germans bombarded the English at Dixmude, 28 miles away. In addition to the real gun, which was hidden, they had a wooden imitation located nearby so that the English and French aviators dropped their bombs upon the imitation gun.

When forced to retire the Germans attempted to destroy the real gun by dropping its muzzle against a concrete wall and firing a shell, but it was so powerful that a large section of a reinforced concrete wall was torn out by the shell and the gun left intact.

While visiting the gun I ran across Luther Hodges, assistant manager of the Carolina Cotton and

(Continued on Page 34)

Valuable Data on Yarn Spinning

The following data on yarn spinning was compiled by Carl R. Harris, chairman of the Spinners Division of the Southern Textile Association and submitted as a part of his annual report to that organization.

The information was secured by sending questionnaires asking for certain information on spinning and covers about about 68 different numbers of yarn. The data asked for included number of yarn being spun, whether it was warp or filling, the grade and staple of cotton being used, hank roving, roving twist per inch, setting of spinning rolls from center to center, speed of front roll, speed of spindles, twist per inch in yarn, size of ring and flange, length of traverse, whether or not separators were used, weight in grains of 10 travelers used, inches traveled by rail in one minute and in the case of warp yarn, the diameter of the barrel of bobbin.

Mr. Harris presents this information to show what a large number of mills are using in spinning the counts of yarn covered in the tabulations. It is considered unusually valuable and as Mr. Harris stated, could hardly have been secured elsewhere:

No. yarn being spun.	6's	7's	8's	9's	9½'s
Warp or filling.	F.	W.	W	W.	F.
Grade and staple cotton.	⅞m	⅞m ⅞m	⅞m ⅞m ⅞m	⅞m	⅞m
Hank roving.	1.10	1.32 1.05	1.25 1.32 1.60	1.25	1.45
Roving twist per inch.	--	1.51 1.46	1.50 1.51 1.60	1.50	1.60
Setting of spinning rolls center to center.	1 1-16	1 5-32 & 1 9-32 1	1 1 5-32 & 1 9-32 1 1-16	1	1
R. P. M. of front roll.	148	200 174	170 200 144	168	212
Spindle speed.	3900	7750 6717	6717 7750 6062	6717	7784
Twist per inch in yarn.	8.00	12.88 12.56	13.06 12.88 13.50	14.20	11.95
Size ring and flange.	1½	2¼ No 2 2 No. 2 2	2 No. 2 2⅛	2 No. 2	1⅞ No. 2
Gauge frame.	2¾	2 3	3 3 3½	3	2¾
Length of traverse.	7	7 7	7 7 8	7	7½
Length of stroke.	2	--	-- -- 7¼	--	1 11-16
Separators or not.	No	Yes Yes	Yes Yes Yes	Yes	Yes
Weight in grains of ten travelers used.	48	30 39	36 30 39	33	24
Inches traveled by rail in one minute.	--	-- 12	11 -- 6¼	10	15
Kind of wind for warp yarn.	--	-- Warp	Warp Warp Warp	Warp	3
If warp yarn give dia. of barrel of bobbin.	--	⅞ cone ¾ cone	¾ ⅞ cone ⅞ cone	¾	--

No. yarn being spun.	10's	10½'s	11's	11's	11½'s
Warp or filling.	W.	F.	W.	F.	W.
Grade and staple cotton.	⅞m ⅞m	⅞m	⅞m ⅞m	⅞	⅞m
Hank roving.	1.32 1.65	2.00	1.60 2.00	1.60	1.45
Roving twist per inch.	1.51 1.77	1.82	-- 1.82	--	1.60
Setting of spinning rolls center to center.	1 5-32 & 1 9-32 1	1	1 1-16 1	1 1-16	1
R. P. M. of front roll.	178 168	153	141 151	137	154
Spindle speed.	7750 7837	6910	6902 6916	4932	7322
Twist per inch in yarn.	14.16 14.84	14.34	15.76 17.30	11.50	15.54

Size ring and flange.	2⅛ No. 2 2 No. 2	1⅞ No. 2	2 1⅞ No. 2	1½	1⅞ No. 2
Gauge frame.	3 3	2¾	3½	2¾	3
Length of traverse.	7 7	7½	8 8	7	8
Separators or not.	Yes Yes	Yes	Yes Yes	No	Yes
Weight in grains of ten travelers used.	26 33	14	20 20	20	20
Inches traveled by rail in one minute.	9¾ 10	13½	6¼ 16½	--	12¼
Kind of wind for warp yarn.	Warp Warp	--	Warp Fill	--	Fill
If warp yarn give dia. of barrel of bobbin.	⅞ cone ¾	--	⅞ 13-16	--	13-16

No. yarn being spun.	12's	12's	13's 13½'s	14's
Warp or filling.	W.	F.	W.	W.
Grade and staple cotton.	⅞m ⅞m ⅞-15-16m	⅞m ⅞m	⅞m ⅞m ⅞m	⅞ ⅞-15-16m
Hank roving.	1.62 1.68 1.75	2.10 2.71	1.62 1.65 2.38	2.40 1.75
Roving twist per inch	1.69 1.77 1.92	1.95 2.00	1.69 1.77 2.18	-- 1.92
Setting of spinning rolls center to center.	1 5-32 & 1 9-32 1 1 & 1¼	1 1	1 5-32 & 1 9-32 1 1	1 1-16 1¼
R. P. M. of front roll.	167 160 152	173 170	160 156 165	135 140
Spindle speed.	7750 8162 8000	6500 6950	7750 8550 8439	6902 7500
Twist per inch in yarn.	15.90 16.33 --	11.26 11.67	16.10 17.65 16.27	17.75 --
Size ring and flange.	2⅛ No. 2 2 No. 2 2 No. 2	1⅞ No. 2 2 No. 2	2⅛ No. 2 2 No. 2 1⅞ & 2 No. 2	2 2 No. 2
Gauge frame.	3 3½ 3, 3½, 3¼	4 4	3 3½ 3	3½ 2¾
Length of traverse.	7 7 7	7 6½	7 7 8	8 7
Length of stroke.	-- -- 1¾	2 1 13-16	-- -- 1⅞	7¼ 1¾
Separators or not.	Yes Yes Yes	No No	Yes Yes Yes	Yes Yes
Weight in grains of ten travelers used.	20 20 20	20 20	20 16 13	14 17
Inches traveled by rail in one minute.	-- 8½ --	11 21¾	9¾ 8 6½	6¼ --
Kind of wind for warp yarn.	Warp Warp. Fill		Warp Warp Fill	Warp Fill.
If warp yarn give dia. of barrel of bobbin.	⅞ ¾ ¾		⅞ ¾ 13-16	⅞ ¾

No. yarn being spun.	14 14½'s	15's	16's	16's	17's	17½'s
Warp or filling.	F.	W.	W.	F.	W.	F.
Grade and staple cotton	⅞ ⅞m ⅞ ⅞m ⅞m	⅞m ⅞m	⅞	⅞m ⅞ ¾-⅞m	⅞-15-16	1 1m
Hank roving.	2.40 2.40 2.71 2.38 2.38	2.05 1.85	2.05	2.60 2.32 3.20 1.85	2.20	2.00
Roving twist per inch.	-- 2.12 2.00 2.18 2.18	2.00 1.80	2.00	2.20 3.00 2.69 1.80	2.05	2.20
Setting of spinning rolls center to center	1 1-16 1 1 1 1	1 1 1-16	1	1 1 1 1-16 1 1-16	1 & 1¼	1 1-16 & 1¼

(Continued on Page 12)

South's Advantage Due To Lower Cost

IN an address before the Rotary Club of Atlanta, George S. Harris, president of the Exposition Mills, of that city, and president of the American Cotton Manufacturers Association, presented a very interesting comparison between cotton manufacturing conditions in the South and in New England. Mr. Harris based his remarks upon the results of a study he made of operating costs in a mill in New Bedford, Mass., and a similar cost of a mill operated in the South.

"I found that the cost of labor in this New England was 4 cents per pound of production greater, than in competing mills in the South, and the cost of power average about 1¾ cents per kilowatt hour as compared with one cent per kilowatt hour which is the figure now prevailing in this section," Mr. Harris said.

"Among other costs I found that city, State and county taxes would almost double the cost to a Southern mill, and would be considerably more than double if the Southern mill is located in the country. This Massachusetts mill is permitted to operate only forty-eight hours weekly, with other restricting laws imposed by organized labor.

"These conditions gave them a production of only about three pounds per spindle weekly, or 300,000 pounds if working at full daylight capacity. If the mill were in the South, it would operate at least fifty-five day-light hours increasing the weekly production to 340,000 pounds or about 13 per cent. It would also be possible practically to double this production with night operation at slight increase in cost per pound. On day-light operation the difference in manufacturing cost in favor of the Southern mill would be about five cents per pound, which would mean a saving of $850,000 annually on a production of 17,000,000 pounds.

"Another cause of failure of mills in New England is poor management. It is said by those familiar with textile conditions in that section that during the past decade many men have been placed in executive positions without proper training, simply because of family traditions. This condition of the inefficiency of management exists not only in New England, but in other parts of the North and in the South as well. The industry as a whole during recent years has shown a woeful lack of talent in management sufficient to meet post-war conditions.

"We find certain communities which are moving plants South by agreeing to final capital to be placed in the enterprise through the preferred stock, sufficient to construct the buildings and villages, while the machinery supplied by the company rarely amounts to as much as 30 per cent of the investment. The absolute control of these corporations remains often in the hands of men who have failed once, and I am not sure they will be able to weather future storms even though they are in the South.

"During the war big profits prevailed and the production capacity was increased. Since the war Southmills have not added many spindles, but owing to the surplus of labor there has been an increase in night operation which has caused series of over production difficult to handle. Largely because of poor market contacts, Southern managers have made serious mistakes in their failure to make an effort to balance their production with present or prospective demand for their products. During the past four years, we find that Southern mills have begun to accumulate unsold products by the early spring, and throughout the summer months have been forced to curtail operations. I think we are very definitely overproducing coarse staple cottons at the present time.

"We have recently recognzied the lack of any means of determining the aggregate production, stocks, unfilled orders or trend of future demand. It was at the meeting of the American Cotton Manufacturers' Association in Atlanta in May, 1926, that steps first were taken to correct these conditions. This is the first year of the Cotton-Textile Institute, which endeavors to secure complete statistics and other facts. Walker D. Hines, director of railroads in the United States during the war, is president of the Institute, with capable assistants, and departments of statistics, textile research, cost accounting and market expansion are maintained which are proving very helpful to the manufacturer.

"It is our dream that we may finally induce cotton manufacturers both in the North and South, to learn some semblance of a code of ethics and to learn further that cooperative competition is better for all concerned than the ruthless destructive competition now in vogue.

"With the present market many mills are finding that they can not pay the current market price for cotton and sell its standard product at a price that would enable it to break even. Some are finding that the only possibility of profitable operations is to own cotton at the prevailing price of many weeks past. This involves a tremendously hazardous speculation,and yet it is common practice among many manufacturers.

"I don't intend to leave the impression that our game is not a good one. It is like any old-established industry, and depends largely on good management, but it is not by any means a milk-fed industry. We buy our raw stock in markets given to quick and frequent fluctuations, and on the merchandising end we must sell our product in a highly competitive market with at present no organization functioning to maintain any standards or price stability. All of this makes hazardous operation unavoidable."

Mr. Harris also included in his speech a list of figures showing the development of cotton manufacturing in the South. In 1900 there were 6,167,000 spindles in this section; in 1910, 11,583,000 spindles and in 1925 17,400,000 spindles, he said. There were 968 mills in the South in 1925, as compared with 738 in the North, which is more than in any country with the exception of Great Britain.

Valuable Data on Yarn Spinning

(Continued from Page 8)

R. P. M. of front roll.	140 168 152 172 170	156 142	148	159 163 160 166	140	140
Spindle speed.	5320 6500 5570 6988 6988	8550 7909	8550	6500 7000 6300 8226	8500	8500
Twist per inch in yarn.	13.00 12.16 12.73 13.31 13.31	17.65 17.94	18.66	13.00 13.50 12.29 16.02	—	16.00
Size Ring and flange	1½ 1⅞ No. 2 2 No. 2 1⅝ No. 2 1⅞ No. 2	2 No. 2 2 No. 2	2 No. 2	1⅞ No. 2 1¾ No. 2 1⅝ No. 2 1⅞ No. 2	1⅞ No. 2	1½ No. 2
Gauge frame.	2¾ 4 4 2¾ 2¾	3 3	3	4 3½ 2¾ 3	3	—
Length of traverse.	7 7 6½ 7½ 7½	7 7	7—	7 6½ 6½ 7	7	8
Length of stroke.	— 2 1 13-16 1 11-16 1 11-16	— 6½	—	2 1 7-16 1⅝ 2	1¾	—
Separators or not.	No No No Yes Yes	Yes Yes	Yes		Yes	
Weight in grains of ten travelers used.	18 18 20 12 11	14 16	14	16 20 16 14	10	9
Inches traveled by rail in one minute.	— 11 14½ 15 15	8 5½	7	11 14½ 9⅝ 7½	—	4

Kind of wind for warp yarn.	Warp Warp		Warp		Fill.
If warp yarn give dia. of barrel of bobbin.	¾ ⅞		¾		¾
No. yarn being spun.	18½'s		18's 18½'s	20's	20's	21's
Warp or filling.	W.		F.	W.	F.	F.
Grade and staple cotton.	1 lm ⅞m		⅞ ⅞sm ⅞m	M. ⅞lgm ⅞	1sm	⅞m
Hank roving.	3.12 2.38		4.00 3.32 2.38	4.00 3.70 3.70	4.03	2.75
Roving twist per inch.	2.20 2.18		— 3.00 2.18	— 2.72 2.75	3.25	2.25
Setting of spinning rolls center to center.	1 1-16 & 1¼ 1		1 1-16 1 1	1⅛ Closed 1	1 1-32	1 1-16
R. P. M. of front roll.	140 137		142 152 155	136 134 145	140	138
Spindle speed.	8600 8165		6106 7000 7862	8500 8500 8512	7250	7500
Twist per inch in yarn.	19.00 20.33		14.80 15.19 16.52	20.80 21.20 19.70	15.93	17.66
Size ring and flange.	1¾ No. 2 1⅞ & 2 No. 2		1½ 1¾ No. 2 1⅞ No. 2	1⅞ No. 2 1¾ No. 2 1¾	1¾ No. 2	1⅜ No. 2
Gauge frame.	— 3		2¾ 3½ 2¾	2¾ 2¾ 3½	3¼	2¾
Length of traverse.	8 8		7 6½ 7½	6 6 7	6½	6
Length of stroke.	7 1¾		— 1 7-16 1½	— 5¾ 6½	1 7-16	1⅝
Separators or not.	Yes Yes		Yes	Yes Yes Yes		Yes
Weight in grains of ten travelers used.	10 9		— 8⅝	— 10 12	18	—

(Continued on Page 32)

*Design and Color in Cotton Goods**

By A. E. Gaskin Brookes

THE bulk of cotton goods are disposed of in the grey state and used for general purposes; but there is a growing demand, year by year, for cotton goods depend entirely on woven or printed design and color, and the stability of pattern for different markets has become a determining factor in the world's trade in textiles.

Unfortunately, far too many merchants and manufacturers in this country have not fully grasped this factor in trade so well as some of our foreign competitors. In many instances British merchants, instead of making a study of the needs of customers abroad, have selected what they considered the right type of design and coloring to fit the case, which, when placed along-side a competitive pattern made exactly to suit the buyer, generally lost the order even if the price of the material was right.

Fitness for Purpose.

Designs in cloth may contain the most beautiful forms and colorings it is possible to conceive, but it would be quite useless to offer an African native a floral design suitable for furniture upholstery in an English drawing-room, and state to him that it would make a lovely robe for him to wear on Sundays.

Our overseas trade must be fostered and better catered for in cotton colored goods in the future. India and China know and demand what they want to a large extent, but places like Foreign East and West Africa, which buy six to seven million of yards of piece-goods per month from us (sales falling lately), British South and East Africa (seven to eight millions of yards), British West Africa (twelve to thirteen millions), Malay tSales (six to seven millions of yards), and other countries, all require further development in textile trading.

Native Taste in Color.

It has long been stated that the peoples of many foreign countries have no taste for color and design in textiles, only very violent and crude coloring making any direct appeal to them. This may have been the case in the past, but today, if we are to win these markets, every consideration must be given to the requirements of what is often quite good taste in colored cottons on the part of the native consumer.

As an instance, one may recall a fact which occurred some time ago when the Design and Industries Association exhibited specimens of modern pottery at the Royal Academy in London, to show the trend of taste in design. In order to display the goods effectively, one member suggested draping behind the pottery some of the fabrics which he made and sold in the African markets. This was done, and the next day the beautiful stripes and colored cottons, which had never been seen before by the public in this country, but were always shipped abroad and could not be bought in the shops, were eulogized by the newspaper press, and the public crowded to see the wonderful fabrics and almost forgot to look at the pottery exhibition.

Following this demand spread for these cotton fabrics throughout the British Isles, and the yare now used for tablecloths, hangings, bedcovers, and other purposes. Further development took place in other cloths which were exclusive to foreign markets, notably the Java batiks. This type of colored cotton cloth brightened up the textile world and gave a dash of color to our homes, which seemed to satisfy the craving for something new and fresh immediately after the war, and was the forerunner of the great demand for colored materials in this country which is now spreading the world over.

Many beautifful and striking designs have been produced by batik printing on cheap cotton cloths, and the broken-color schemes which appealed so much to the native abroad in dress draper, displayed under bright sunny skies and in a clear atmasphere, have been adapted in this country for furnishings, curtains, curtains, dresses, handkerchiefs, etc.

Directors of the cotton industry, managers, manufacturers, designers, finishers, merchants, and others who supply people's needs, must be alive and see what is being done by other countries in order to compete successfully in different markets. Information from merchants who get first-hand knowledge of overseas requirements should be more readily passed on to the mills that make their goods. By this means a new style of cloth may be evolved after a careful analysis of a given texture by a skilled mill designer; or a new finish or coloring be given to a cloth which could be placed quickly on the market and capture trade. For instance, the "Princess Mary Blue" selected one week and displayed in dyed fabrics in the shops a few days later thereby created a passing fashion.

More men are needed with imagination and enterprise—men with a broad outlook, who are not afraid to attack new problems and can suggest new ideas, men who can grasp every opportunity that may lead to final success. These men must realize that there is a gradual decline

(Continued on Page 31)

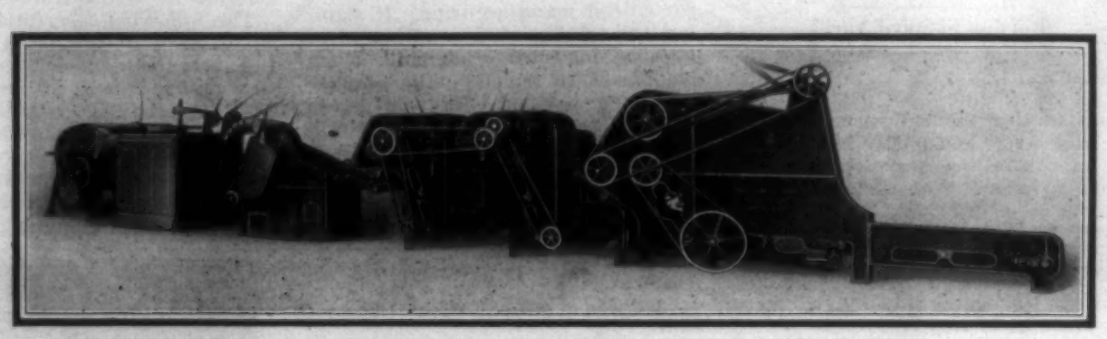
*Extracts from lecture delivered before the Manchester Athenaeum Textile Society.

Here's the Reason Why

SACO-LOWELL'S OPENING and CLEANING EQUIPMENT

EARNS REAL DIVIDENDS

1824 1927



THE mills of this country are beginning to realize more than ever before that the Opening and Cleaning process is of vital importance in the spinning of yarn; and that it is one in which there is a great opportunity to lower costs.

The Saco-Lowell Shops Have Been The Leaders

of this country in developing improved methods of opening and cleaning cotton. Within the last three years we have put on the market a number of new machines, and at the same time have redesigned and added many important features to the old ones.

But it is not only the development of new machines that counts; it is engineering experience and practical knowledge of the subject that has enabled us to lower the costs of so many mills.

Our Kitson Shop Has Been Designing and Building Opening and Picking Machinery Exclusively for Over Seventy-five Years.

Physically the Kitson Plant and personnel are entirely separate from the rest of our shops; and their whole organization is given over to the study and development of the opening, cleaning, and picking of cotton.

It Will Be Worth Your While

to let one of our Kitson engineers study your problems and show you how to get the most out of the equipment you now have, and how additional machinery, where necessary, will actually save you money.

Opening and Cleaning machinery is the lowest priced equipment in your mill, yet it is capable of paying you the largest return.

The Sum Total Is—

Better Opening and Cleaning,
Better running work,
Stronger and **Evener** Yarn.
Equipment that **Pays Dividends in DOLLARS and CENTS.**

SACO-LOWELL

Largest Manufacturers of — *It pays to Install Modern Machinery* — *Textile Machinery in America*

147 Milk St., Boston, Mass. Charlotte, N. C. Greenville, S. C. Atlanta, Ga.

Practical Discussions By Practical Men

Will Too Much Heat Weaken Yarn

Editor:

I am oblige to dry a great deal of wet yarn. The heat is scant and seems as though more heat is needed to dry the yarn sooner and better. But I have heard that too much heat will weaken the yarn. May I make inquiry, through your Discussion Department, if too much heat will weaken the yarn?

Bleacher.

Cards per Operative.

Editor:

In a carding department how many cards should an operative have and what should constitute his duties? Pike.

Random Size of Yarn.

Edifor.

What is the use of the random sizing of yarn after a regular size has been prepared? Nolar.

Rinsing Skeined Yarns.

Editor:

In our business we partly bleach considerable skeined yarn. After it is boiled out and partly bleached, it is, of course, necessary to rinse this yarn to free it from foreign matter before it is dried out for consumption. The rinsing process is all done by hand. What we want to know, is there a more rapid method of rinsing this yarn than by the cumbersome hand way of doing?

Progress.

Recipe for Roll Cement.

Editor:

Please pulish in "Practical Discussions."

Will some good roller shop man give me the recipe for roller cloth cement, giving brand of glue used and just how to mix it. We are having trouble with our cloth coming loose from roller.

Ohio Valley.

Answer to Blue Ridge.

Editor:

Blue Ridge has made inquiry about different systems for cleaning yarn. Being familiar with yarn cleaning, I will be glad to advise him in full concerning the different systems.

Originally, yarn cleaners were very simple. Some yarns were run through sponges, sheep skin, with the wool left on it, and through flannels, etc. Yarns have also been run through brushes of all kinds. But during the present age there are many more systems some of which are very elaborate. Some of these systems are arrangements to run the yarns between a series of plate edges. Some of these are agitated by cam motions. Yarns are also gassed. Cleaner.

Answer to Rattletrap.

Editor:

Rattletrap asked the question, "how can his laps be stopped from buckling before they pass under the piano evener motion." He said he was starting an old machine and it probably is rusty, and if he will take the evener out and polish all evener parts and all parts that come in contact with his laps and see that his tension springs are all tight on his feed rolls, and lap apron is working free and make the laps just heavy enough to keep the evener belt in the center of the cone pulleys, I think he will not have any more trouble with his laps buck'ing.

J. W.

Answer to Calif.

Editor:

What is the standard number 840, as asked by Calif. 840 means yards. It is the standard or constant factor for cotton manufacturing. It signifies the total yards in one pound of number one yarn. Originally seven bobbins were reeled to the number of 120 yards each. The total yards from these seven bobbins was 840 yards, and if they weighed 7000 grains or one pound, it equalled number one yarn.

Gastonia.

Answer to Western.

Editor:

Replying to Western, regarding his inquiry of "what is considered the best twister dimensions, speeds, bobbin wind and twist," will offer the following details in answer his questions.

One of the leading mills making this class of yarns for both market and home consumption, have twisters with the following data:

Yarn number 50/2 ply, turns per inch 24, speed of front roll 54 r. p. m., speed of spindles 7000, speed of cylinder 1170, size of rings 1¾ inches, diameter of front roll 1½ inches, length of traverse 6 inches, diameter of bobbin barrel ⅞ inches, diameter of bobbin head 1⅝ inches, kind of winding filling wind, sides per hand 8; spindles per side 122; diameter of cylinder 8 inches; diameter of spindle whorle ½ inches.

Overseer.

Answer to Beater.

Editor:

Beater asks what causes his beaters to load when running strippings. Very likely his beaters have rough edges on them that need dressing down smooth with a file and emery cloth. Also his stripping plate may be set too far from the beater. I would suggest that he set the plate closer to the beater and note results.

S. M. C.

Answer to Rattletrap.

Editor:

I notice that Rattletrap is having trouble with the laps buckling in front of the plate. If he will set the feed rolls closer to the beater I am sure his troubles will end. I have tried this out and find that it would worked better than anything I can do. Of course he should use his judgment in this and set just close enough to overcome the trouble and no closer.

S. C. M.

The Inter-Roving Frames

THE new speeder frame designed and developed by John Hethermgton and Sons, Ltd., Manchester, Eng., which is sold in American by Herbert Harrison, 40 Federal Street, Boston, is attracting much interest in both this country and abroad. The frame is described as an "inter-roving" frame because it is designed to do the work of both the intermediate and roving frame.

The makers of the machine claim that it offers a distinct improvement in speeder frame construction and to embody of number of new ideas relating to roving frames.

The following description furnished by John Hetherington and Sons, Ltd., sets forth the details of the design and purposes of the machine. The machine has a patent double arrangements of the drawing rolls which gives as much drawing capacity as the usual process of using an intermediate and then a roving frame. It also offers a number of improvements which allow an increase in spindle speed of 30 per cent. Frames in actual use are being run at 1650 r. p. m. and tests show that even higher speeds may be attained. The makers claim that the new inter-roving machine not only eliminates the intermediate frame, but also does as much work as four of the roving frames of ordinary type.

The appearance of the inter-rover is similar to an ordinary roving frame except that the roller beam is different. A view of the roller stand and the false twisting device is shown in Fig. 1, while Fig. 2 shows a plan view of the first box and the roller gearing. The roller stands carry six lines of drawing rollers arranged in two sets of three lines each. Placed between these sets of rollers and mounted on the stands are brackets carrying small tubes and flyers which are positively rotated in synchronization with

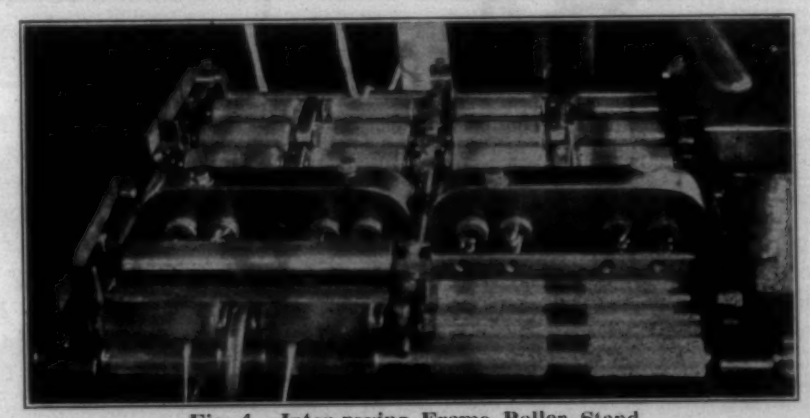


Fig. 1. Inter-roving Frame Roller Stand

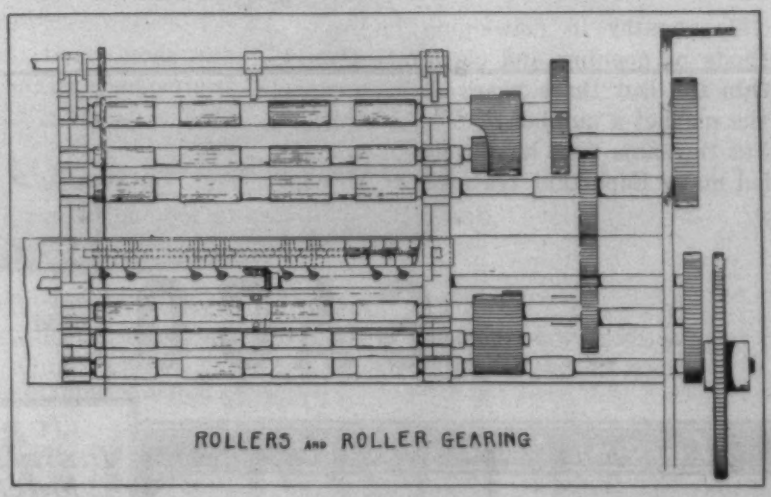


Fig. 2

the front roller speed. The drive for these flyers is totally enclosed, and is thus kept free from accumulation of fly. A long shaft, driven from the front roller, carries a number of small bevel-wheels, which gear which gear into bevel-wheels on short studs, the drive being communicated to the flyers by small pinions.

The slubbing roving is fed through the usual traverse rod, and is subjected to a normal draft in the back three lines of rollers. The drawn roving is then passed through the false twisting device, whereby a false twist is imparted to the roving with the object of consolidating the fibers before presentation for the second drawing. While the roving is receiving the false twist in undergoes a further slight draft of from 1.075 to 1.1. The second set of drawing rollers is therefore fed with a compact, homogeneous sliver, without appreciable twist ,and in ideal condition for receiving the second drawing. This is carried out in the usual manner by the front three lines of drawing rollers. It is interesting to note that the front set of drawing rollers is weighted to only .50 per cent of ordinary practice.

It may be clearly understood that the draft in each of the two sets of drawing rollers never exceeds that used in ordinary speeder frame practice. Also the slight stretch or draft that is introduced in the false twisting device is valuable, for it is equivalent to the gain in a mule carriage, and tends to even out thick places. Moreover, the loss of one doubling is more than compensated for by the reduced number of piecings and other faults.

The chief improvements in the other mechanism of the inter-roving frame are fully protected by patents. Among these may be mentioned simplified chain drives for driving the bobbins, spindles, and rollers. A view of the new chain swing is shown in Fig. 3, while Fig. 4 shows the new drive for the rollers by chain from the top cone.

The differential motion has been simplified and reduced in bulk. It runs in oil, is fitted with ball bearings, and is exceptionally compact and light. It is so arranged as to permit of a small bobbin-driving wheel on the driving shaft, which, from a mechanical point of view, is an improvement. The cone drums have been shortened and the direction of their rotation changed, with the result that cone bouncing is eliminated, and perfect steadiness is achieved in the bobbin drive, which is proved by the absence of sagging of the rovings between the front roller and the flyer top. The collective results of these improvements permit the high spindle speed mentioned.

The machine is now working successfully in several mills. In no case has there been found any deterioration of either the strength or the regularity of the yarn, but in most cases a slight improvement in both these respects is reported. The makers claim that the new inter-roving frame, while producing stronger, cleaner, and more even yarn, effects a striking reduction in capital and running costs, because it requires less floor space, less power, less labor, and less equipment of bobbins, boxes, etc. The floor space required for the frames is reduced by 30 to 50 per cent, owing to the elimination of the intermediate frames and the reduced number of roving frames required. The makers have prepared comparative lists of machinery required for mills of 40,000 ring spindles. As compared with ordinary practice, mills fitted with the new inter-roving frames effect the following savings: A mill to spin 20s from single rov-

(Continued on Page 2

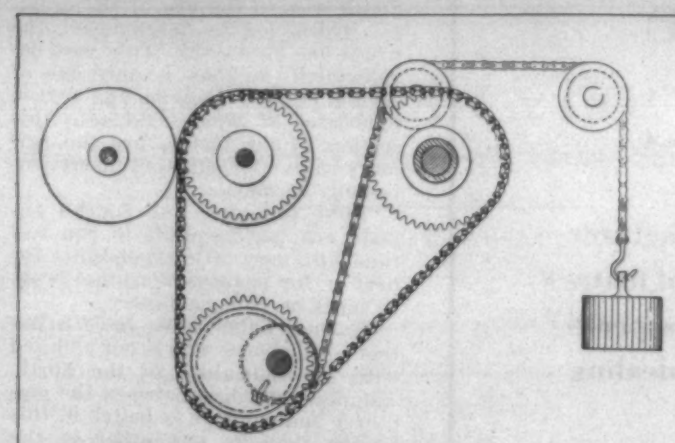


Fig. 3

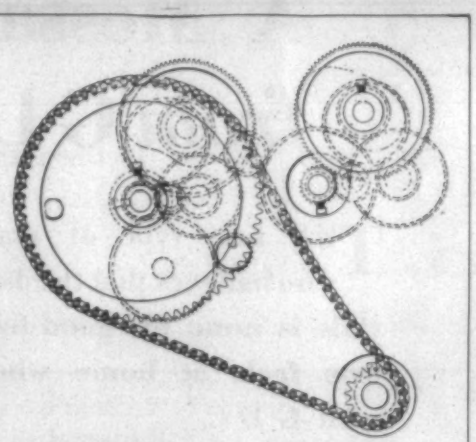


Fig. 4

Evans Again Heads S. C. Association

The South Carolina Cotton Manufacturers Association, in annual convention at Asheville, N. C., last Saturday, re-elected J. Choice Evans, of Spartanburg, as president.

The feature address was by Governor Richards, of South Carolina, who spoke on hydro-electric development in the South.

Zack Wright, of Newberry, was elected vice-president, succeeding Allen Graham, of Greenville. A secretary will be chosen by the executive committee next month. S. W. Converse, of Spartanburg, is the present secretary.

Governor Richards declared the South was on the eve of the greatest hydro-electric development the world has even seen. This vast development, he said, is only one of several factors bringing the textile industries of New England to this section. Four factors are the primary causes for this movement continuing, he said.

"First, Climate. The South's climate enables the mills to run full time with very little expenditure for heat or for protection against broken pipes or stiff machinery.

"Second, Labor. We have a native born laborer who is not polluted with the radicalism of the North. The understanding between the employer and employe is better in this section than in any other in the United States.

"Third, Water Power Development. We have a fall on our rivers coming out of these highlands that presents a God-Given source of power to turn our looms.

"Fourth, Availability of Raw Material. The South can manufacture cotton for five cents a pound cheaper than it can be manufactured in New England."

Governor Richards also declared that many sections of the country had legislated corporations to death, particularly in the North and in New England, but the South has been able to strike a happy medium between unchecked or uncontrolled business and too great governmental supervision.

When asked if he thought that the South would probably enact as stringent legislation in regard to the business as the North has when this section has been industrially developed as long as that, he emphatically replied: "No. Judging by the past and by the present attitude in the South, I can say with conviction that we will not blunder into the mistake that New England has made. We have their experience to profit by."

Dr. W. W. Long, of the extension department of agriculture at Clemson (S. C.) College, discussed the development in the agricultural methods of growing cotton in the South, stressing the need for selection of better seeds and production of longer staple.

Cannon Mills Get Large Order.

Philadelphia, Pa. — Cannon Mills, Inc., New York, lowest of seven bidders at the opening last Thursday, has been warded the contract for suplying the army with 70,000 yards of 54-inch unbleached sheeting, it was announced at the local depot. Their bid was: 18.11 cents per yard, net, delivery to commence July 1 to 15 and be completed by July 31.

Studying New Uses For Cotton

The Cotton-Textile Institute, Inc., authorizes the following:

Representative of the Department of Agriculture, the Department of Commerce, and the Cotton-Textile Institute, comprising the committee on new uses of cotton, met last week in the offices of the Institute to discuss the census of uses of cotton and ways of extending the use of cotton goods.

Special appropriations by Congress for investigation by the two governmental departments, representing producers as well as consumers of cotton in agriculture and industry, will be available July 1 and the preliminary work already undertaken will be expanded immediately.

In order to avoid duplication the Department of Commerce will pursue its study among commission houses, wholesalers, converters, finishers, garment manufacturers and cutters-up and with other industrial groups using cotton or competing fabrics. The Department of Agriculture will study the uses of cotton and their extension in agriculture and for domestic purposes. Part of this work in co-operation with the Cotton-Textile Institute will be an intensive study of the use of cottor for bags and bagging in place of other fibres now used for such purposes. The Cotton-Textile Institute will continue to study the subject as a whole co-ordinating the work of the two departments as related to the manufacture of cotton goods.

Among those present were: Dr. B. Youngblood, of the Bureau of Agricultural Economics; Prof. H. B. Killough, consulting specialist of the Department of Agriculture; E. T. ickard, chief of the textil edivision of the Department of Commerce, and E. C. Morse, in charge of the new uses section of the Cotton-Textile Institute.

N. C. Textile School Has Record Summer Attendance.

Raleigh, N. C.—The summer session of the Textile School of North Carolina State College opened June 13 with more textile students in attendance than ever before.

Dr. Thomas Nelson, dean of the Textile School, announces that plans have been made to keep the school open the year round. This will enable the school to place the research department and experimental laboratory, which is equipped with a full complement of carding and spinning machinery, at the disposal of the mills throughout the year.

Greenville, S. C.—Checks retiring a $400,000 issue of preferred stock of the Union Bleachery were mailed out in accordance with a decision reached at a recent meeting of the board of directors to retire the issue after July 1.

BLISS, FABYAN & CO.

announce the incorporation of their business
as of July 1, 1927

THIS corporation perpetuates the business founded almost one hundred years ago, and continues to offer to textile manufacturers and their customers the services of a complete and widely experienced selling organization.

BLISS, FABYAN & CO., INC.

New York—Boston—Chicago—St. Louis—San Francisco

Cornelius N. Bliss, *Chairman of the Board*

S. Robert Glassford, *President*
P. Y. DeNormandie, *Treasurer*
Eustis L. Hopkins, *Vice-President*
Victor F. Hann, *Secretary*

Directors:

Cornelius N. Bliss
S. Robert Glassford
P. Y. DeNormandie
Eustis L. Hopkins
George Fabyan
Francis W. Fabyan
Edward B. Field
William B. Markell

We believe in the fundamental soundness of the textile industry.

We believe increasingly competitive conditions require the abandonment of worn out traditions and the use of new methods of serving cotton mills and their customers.

We believe in the high ideals and sound principles which have governed this business in the past.

We believe the most profitable results to the average mill are insured by its association with other mills of divergent product under one selling organization.

We intend to carry on and expand our business on the foundation of these beliefs and convictions.

BLISS, FABYAN & CO., INC.

S. Robert Glassford
PRESIDENT

The Fine Points of Carding

A Series of Articles Contributed to a Prize Contest on This Subject

Number Thirty-five

In entering this contest, I would say that I would have a good, solid foundation for the cards to rest upon.

Of course, to do good carding, we must have good even laps to start with. I would have the card stripped well and then let it run about 30 minutes. Then stop it and clean flyings from all parts, oil well and put on the grinder. I would grind medium heavy. When points were sharp, I would use the following settings:

Screen under cylinder at back, .022; middle .034, front .068; licker-in as close as possible, mote knives to licker-in .007; feed plate to licker-in .007; licker-in to cylinder .007; knife plate to cylinder at back .017; front plate to cylinder according to amount of stripping to be taken out; doffer to cylinder .007; flats to cylinder .007 on finisher cards and .010 on breaker cards, as we have double carding; doffer comb to doffer .015; flat comb close enough to clean well.

I would keep the licker-in in good shape, as it will not do good work when dull. I would also keep the spiral brushes in first class condition. When they are worn they will not clean the flats as they should. I would also keep the entire card clean at all times, as this helps make good work.

Another important thing is to have flyings cleaned out from under the cards once a day. I would instruct grinder to train the help to do good work when putting on full laps and not lap over too much, but just enough not to make singlings or doublings. This is one of the easiest places in the mill to make bad work.

The settings I gave are for good inch cotton. OLD TIMER.

Number Thirty-six

In taking up the subject on fine points of carding, there are so many things to consider that we hardly know where to begin as it is impossible to make a high grade yarn from the card alone.

Lets take all the fine points from the spinning room through the mill up to the speeders, so let's take a trip over to the opening room and see how things look. We will open up as many bales of cotton as we have room, and instead of putting a large thick layer on the apron we will put a thin layer from each bale as the breakers lap only weigh about 40 pounds you can very easily see that if we lay on 50 to 70 pound pieces from each bale it is impossible to get a uniform mixing.

We will now go over to the picker room. We first notice and see if our fan and beater speeds are not too high,as much damage can be done by high speed beaters. Some carders ruin their machines, ruin the quality, and kill the production. Have the grid bars set so as to take out as many motes as possible with less beats per minute. Here is a correct setting of the bars to obtain good results. Begin with the bottom bar and set ¾ inches from beater. Put second bar in place with the back edge of bar about 1-16 inches back from the working edge with 3-16 opening between bars. Put in 3rd, 4th, and 5th bar with ¼-inch opening. Always let the back edge of bar drop back a little from the working edge, allowing the motes to be knocked through the bars instead of going on through with the cotton.

Then we put in the last three top bars with 5-16 inch opening, setting them 7-16 inch from the blade of beater. Using this setting with the proper fan speed we will get cleaner work with less danger of lessening the breaking strength of the yarn.

Now this brings us up to the cards, as I said in the beginning we can't start on the cards and make perfect yarn. We will first see if the card is true and level, and the clothing is good and tight. If there are jams on the cylinders, and some of the teeth bent down get them scraped up good before grinding. If the clothing is loose and in such a condition that you can't get a good smooth setting better let that card stand until you can put new clothing on it.

We now take up the screens, and let me say right here, there is a lot of bad yarn turned out of some mills on account of neglected screens. Take the bottom screens all out and see that there are no dents or pockets in them. Get a piece of fine emery cloth and clean them good and smooth and rub them with stove polish. I take my screens all out once a year, and treat in this way, and I find it is time well spent. Cleaned in this way we set them up properly to the cylinder. Treat the licker-in screen in the same way, see that the licker-in is in good shape. Straighten up all bent down teeth that have gotten dull, and are not in good shape. Have them reclothed as you can't sharpen them satisfactorily, and the licker-in plays a very important part in cleaning and combing the fabric.

In setting the mote knives give them the right angle to take out all the motes they will, but set them up as close to the licker-in as they will go without striking. We now come to the flats. Cards that have been running a long time the flat chain get worn, and will let them drag behind. Take out flat or enough to get the chain tight then the tops will always come flat on the face of cylinders. Every carder has his own ideas about setting the flats. A great deal depends on the amount of work your card is doing, the kind of cotton you are on, and how much cleaning you want done.

(Continued on Page 27)

SOUTHERN TEXTILE BULLETIN

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Inherited Jobs

IF conditions in the textile industry in New England that are causing so many mills to move South are to mean anything to Southern cotton manufacturers, they should be regarded as an object lesson in business that are well worth close study.

It is all very well to enthuse over the South's importance as a textile center, over the advantages that should make it the textile center of the entire world. It is fitting to point with pride at the wonderful progress that our industry has made and to rejoice that the Southern States are rightfully taking their places in the nation's scheme of industrial development. It is folly, however, to allow such enthusiasm and pride to lead us to overlook the things that threaten to uproot New England's cotton mills. What has happened in New England might happen in any other section of the country.

The Southward migration of Eastern mills has been brought about by a combination of circumstances that makes it unprofitable to operate at home. Some of these things may never threaten the South, others will. It is therefore, highly important that we bear in mind the causes that lie beneath the troubles in New England.

As we recently pointed out, cotton manufacturing in New England has been made increasingly difficult because of the unfavorable legislation that has handicapped mill operations there. While there appears no immediate danger of such legislation in the South, it can develop in future years if we overlook any tendency in that direction.

Another very important factor that has contributed to New England's present plight is poor management. We refer particularly to that type of mismanagement that is often due to family tradition. It has been frequently pointed out that New England has suffered from the long standing custom of handing down mill management from one generation to another, regardless of managerial ability. The result is that many men have executive positions who are totally lacking in ability. The meek may inherit the earth, but the weak seem to inherit the mills.

This business of making cotton mill management a family affair is by no means confined to New England. We have our share of it in the South. Some of our mills are so bound up with family ties that it is an utter impossibility for them to operate efficiently and economically.

Stockholders, especially small stockholders, frequently suffer because some son, son-in-law, nephew, or other relation is kept on the pay roll in a responsible position regardless of his value to the management. Aside from the financial loss and the inefficient management in such cases, the effect on the whole organiation is always bad. We could cite many instances to show that poor management and wasteful methods are often due entirely to family influence.

One of the best superintendents we ever knew recently lost his job to make room for a younger member of the controlling family who did not know enough about actual manufacturing to make a good sweeper. Many a superintendent and overseer has told us he quit a job because it was impossible to work under some manager who knew nothing whatever about the work he was supposed to direct.

We know of mill executives who hold their positions simply because they inherited them. Otherwise their inefficiency would not be tolerated. We have in mind a mill company that wastes thousands of dollars every year because its cotton is bought and classed by a son-in-law of one of the officers. Its no trick at all for a shrewd cotton man to stick him as to grade and staple.

Fortunately, the other side of the picture is very bright. Our Southern mills have a great many executives and superintendents who may primarily owe their jobs to family position, but who are qualified for their work by training and experience and who are eminently successful in handling it. We noted with pleasure this week that one superintendent, whose father was one of the ablest manufacturers in the South, has just received another promotion. Many of them younger men in the mills today are better mill men than their fathers who built the plants. They became so because they were trained for the work.

We know of nothing nicer than a business that is kept in the family from generation to generation and always efficiently administered because the rising generation is willing to learn. It is a pleasant sight to see a young man step into his father's shoes, providing he can fill them. Any man who aspires to see his son or anyone else in the family inherit his position should see that the job is passed along solely on the basis of merit. No other consideration should influence the choice. If the son is fitted for the job, he should receive it. If not, it should go outside the family.

An inherited position usually means little to anyone who is content to assume it on that basis alone. On the other hand, a position inherited by a man trained to fill it, means a great deal. Southern manufacturers can now give the younger members of their families many advantages in textile training and eduation that they were denied themselves. In doing so, when the time comes, they can relinquish their posts with assurance that the mill's affairs will not suffer.

Of course not all poor management is traceable to inherited jobs. The latter happens to be one form of mismanagement that can and should be eliminated. The simplest way to do so is to make inherited position contingent on training and ability.

Blood is thicker than water, but like red ink, often leaves a trail on the wrong side of the ledger.

More and Better Underwear

SOMEONE in the textile trade has suggested that the cotton mills quit trying to induce the women to wear more cotton. Leave the women clothes alone and go after the men is his idea. His first suggestion is a campaign to induce men to wear, or rather own more underwear. The average man, this authority asserts, owns but two suits of underwear, except on the day when the laundry comes home when he owns only one and a half.

He further suggests that cotton underwear manufacturers put on a nationally advertised drive to sell every man in the country a dozen suits of underwear. Pack a dozen suits to the box and sell the men.

It is a very good suggestion, and would produce at least some results even though it would not go over one hundred per cent.

We still contend that the women will adopt cotton dresses if they are created solely on a basis of style. Why not keep after the women through style appeal and go after the men on the underwear proposition at the same time?

One Way of Reducing Yarn Stocks

WE heard the other day of a mill superintendent who made thousands and thousands of pounds of yarn of a quality that appeared a total loss. He tried to get from under by piling it into the fire in the boiler room. Of course he did not get by and he needs another job.

His idea about putting the yarn in the fire wasn't totally wrong at that. We have seen the time when a wholesale burning of yarn stocks might have been the best thing in the world for the market. Sometimes there is little difference between burning up yarn in the mills than in burning up profits in an overloaded market.

Carded Yarn Meeting

THE meeting of the Carded Yarn Spinners Group of the Cotton-Textile Institute, held Thursday in Charlotte, will be reported in our issue of next week.

From conversation with a large number of carded yarn spinners we are convinced that they have gone earnestly into the work of the Institute and their interest in their own group speaks well for its future. There is no doubt that a growing spirit of cooperation is evident among these spinners and that most of them are fully aware that they have reached the point where they must really work together in order to put their business on a more stabilized basis.

Spinners are expressing a great deal of interest in the Code of Carded Yarn Trade Practices that was worked out through the Institute. Those who have expressed an opinion to us state that the need of better selling methods is so evident that they believe the effort to better conditions in this respect will meet with very good response. In this connection it is interesting to note that the yarn dealers and brokers are also expressing much interest in the code and that there is a general sentiment in the yarn trade in favor of more uniform selling arrangements.

We sincerely hope that the practical value of the Institute will be promptly demonstrated for the benefit of the carded yarn spinners.

Personal News

J. F. Ford has resigned as overseer of weaving at the Williamston Mills, Williamston, S. C.

C. W. Neal has resigned as superintendent of the J. M. Odell Manufacturing Company, Bynum, N. C.

L. Leverman will be superintendent of the new Kentucky River Mills, Frankford, Ky.

Harry J. Hunter is general manager of the new Albemarle Weaving Company, Charlottesville, Va.

John Moser has been appointed superintendent of the new Perfection Hosiery Mills, Burlington, N. C.

L. Y. Corley has been appointed superintendent of the new Anchor Hosiery Mills, Columbus, Ga.

J. G. Sanders is now superintendent of the Little Rock Textile Company, Little Rock, Ark.

K. C. Etters has resigned as general superintendent of the Hart and Fountain Mills, Tarboro, N. C.

Paul Cranford has resigned as overseer of spinning at the Chadwick-Hoskins Mill No. 2, Charlotte.

C. E. Ramsay has resigned as overseer of the cloth room at the Chadwick-Hoskins Mills No. 3, Charlotte.

K. L. Durham has become overseer of cloth room at the Chadwick-Hoskins Mill No. 3, Charlotte.

J. H. Laurens has resigned as superintendent of the Chadwick-Hoskins Mills No. 1 and 2, Charlotte.

E. P. Floyd has accepted the position of overseer of weaving at the Chadwick-Hoskins Mill No. 1, Charlotte.

Claud Cranford has been promoted from second hand to overseer of spinning at the Chadwick-Hoskins Mill No. 2, Charlotte.

I. A. Sagendorf is now superintendent of the recently organized High Rock Knitting Company, Bristol, Tenn.

O. T. Barnett has been promoted from second hand at the Riverside Mill, Anderson, S. C., to overseer of carding at the Riverside Mill No. 3, Pendleton, S. C.

G. E. Moore has resigned his position with the Edenton Cotton Mills, Edenton, N. C., to become superintendent of the J. M. Odell Manufacturing Company, Bynum, N. C.

E. Lee Skipper has been promoted from superintendent of the Kershaw Cotton Mills, Kershaw, S. C., to a similar position at the Fort Mill Manufacturing Company No. 1 and 2, Fort Mill, S. C.

Howard C. McKenna, overseer of weaving and designer at the Planters and Merchants Mills, New Braunfels, Texas, and Miss Alvina Abrahams of New Braunfels, were married June 16th.

J. M. Payne from the Panola Mill, Greenwood, S. C., has become overseer of weaving at the Williamston Mills, Williamston, S. C.

David Clark, editor of the Southern Textile Bulletin, who has been abroad for some weeks, ie expected to return to Charlotte the latter part of this week.

B. C. Baker has been promoted from overseer of carding No. 1 and 2 at the Lancaster Cotton Mills, Lancaster, S. C., to superintendent of the Kershaw Cotton Mills, Kershaw, S. C.

J. H. Mode has been promoted from overseer of weaving at the Chadwick-Hoskins Mills No. 1, Charlotte, to superintendent of the No. 1 and 2 mills of the same company.

S. L. McCracken, formerly superintendent of the Steele's Mills, Rockingham, N. C., but more recently Southern representative of the Baltimore Belting Company, with headquarters at Charlotte, has accepted the position of general superintendent of the Hart and Fountain Mills, Tarboro, N. C.

John F. Long, formerly superintendent of the Beaver Mills, Douglasville, Ga., has accepted a similar position at the Ninety-Six Cotton Mills, Ninety-Six, S. C. He succeeds P. A. Smith, who as reported last week, is now general superintendent of the Loray plant of the Manville-Jenckes Company, Gastonia, N. C.

Frank W. Gurry With Stafford Co.

Frank W. Gurry has recently been appointed by the Stafford Company of Readville, Mass., as Southern selling agent with headquarters at the company's office in Charlotte, N. C. Mr. Gurry is well known through the country as an expert cotton manufacturer. The Charlotte office is in charge of Fred H. White, Southern agent.

James P. Gossett Gives 40 Scholarships.

Anderson, S. C.—James P. Gossett, cotton mill man and president of the American Cotton Manufacturers' Association, has given 40 schalorships to the opportunity schools to be conducted this year under arrangements made by Miss Wil Lou Gray of the State Department of Education. Twenty of the scholarships will be to Anderson College, where the school for women will be held and the others to Erskine, where men students will be enrolled.

Dissents to Efird Will.

Albemarle, N. C. — Mrs. Bertie Scruggs Efird, widow of the late John S. Efird, cotton manufacturer, has dissented to the will of her late husband, having come before the clerk of Superior Court, through her attorney, James H. Pou, and filed her notice of dissent as prescribed by law.

MILL NEWS ITEMS OF INTEREST

Barnesville, Ga. — It is reported that the Georgia Knitting Mills have been purchased by J. A. Caso.

Marietta, Ga.—Controlling interest in the Marietta Knitting Mills has been acquired by Clyde Wilkins, according to local reports.

Laurel Hills, Va. — Wm. G. Wood has purchased the Rappanhannock Woolen Mills Company.

Morristown, Tenn. — The Morristown Knitting Mills will install 48 knitting machines for making infants' hosiery. J. Hallman Bell, is secretary.

Union, S. C. — Eight car loads of the machinery for the Liberty Fabric Corp., of Union, has arrived, and will be installed at once. The balance of the 27 car loads is en route.

Chattanooga, Tenn.—Details of the addition to be built to the Dixie Mercerizing Company, as recently noted, show that the building will be 2 stories, 65x160 feet, reinforced concrete construction and will cost about $50,000, including heating wiring, elevators.

Pinehurst, N. C.—It has been reported that the County Moore Cotton Mills is to sell its product through the New York house of Bliss, Fabyan & Co., in the near future. Gordon Bunker has been representing the sales end of the County Moore Mills.

Rock Hill, S. C. — At a directors' meeting of the Aragon-Baldwin Mills, a semi-annual dividend of 3 per cent was ordered paid on common stock, besides the regular three and one-half per cent on preferred stock.

Laurens, S. C.—The town of Laurens is negotiating with a textile company in New England for the removal of the plant here. Available sites here have been inspected by representatives of the mill company. If the move is made, local men will take part of the stock.

Belmont, N. C.—While no official announcement has been made, it is understood that the output of the Belmont Processing Company will be sold through the Aberfoyle Manufacturing Company of Chester, Pa. The Aberfoyle Company is expected to move additional mercerizing equipment to the plant here.

Anniston, Ala.—It is understood that the Cadet Knitting Company, of Philadelphia, has purchased part of the Anniston Hosiery Mill equipment and the mill building. The Rome Hosiery Mills, Rome, Ga., have purchased the remainder. The Cadet Knitting Company plans to take over the plant at once and move its seamless hosiery machines from Philadelphia. F. Murray Field will be local manager.

Landrum, S. C. — The Excesior Knitting Mills, of Union, S .C., will establish a branch plant, with 50 knitting machines, here.

Goldsboro, N. C. — The Goldsboro Artistic Weaving Co., a branch of the Artistic Narrow Web Co., of Keene, N. H., is to have 40 looms and other machinery. The building is being rushed to completion. F. Zecha & Son, of the Artistic, will have charge of this plant giving employment to 30 or 40 people.

Greenville, S. C.—Bids for the construction of the Slater textile plant at Marietta, 15 miles north of Greenville, are returnable in the office of J. E. Sirrine & Co., in this city, on July 19. It is expected that the contract will be let then or shortly afterward. Specifications for the proposed job went to all bidders in this section of the country. The main building will be 112 by 173 feet in dimensions and two stories high. The warehouse, also two stories high, is to be 100 by 150 feet in dimension. A boiler room, reservoir, and from 100 to 125 houses will also be constructed.

It is expected that work on the project will begin about August 1, the Greenville and Northern Railway being put in repair by that time. The proposed Slater plant will be operated both night and day. It is expected that the total outlay will be around $1,000,000.

Marietta, Ga. — With three carloads of machinery now in Marietta to be installed immediately in the Willinca Cotton Mills, C. E. Bailey, superintendent, announced an expansion program which will almost double the present capacity of the mills.

Officials of the company state that the number of spindles will be increased from 2,800 to 5,000, employing nearly 200 persons. The annual payroll is estimated at about $100,000.

The new machinery will be installed, J. J. McCrary, the manager, states, during the next sixty days, and operation on the enlarged scale will begin at once. The mill manufacturers carpet yarns, insulation yarns and threads, and other such materials. Since its establishment several years ago the business has shown a constant growth under thoroughly capable direction.

Burlington, N. C. — The Elmira Mills, which were reorganized last week, as noted, will be known as the Mayfair Mills. The new company has a capital of $500,000. The output of the mill will be sold through the T. Holt Haywood Department of Frederick Vietor and Achelis.

Fine yarn fabrics will be woven at the plant hereafter, including Celanese, silk and rayon goods, to be marketed both in the gray and finished state. The necessary transformation of weaving equipment is

to begin almost immediately, but the mill plans to fill most of its fine yarn requirements in the open marke. With its own spindles, the mill can make yarns only up to 40s and in the future, it is stated, most of this yarn product will be marketed separately. The mill is in a position to produce some fancy cloths at once.

The officers and directors of the reorganized company are all residents of Burlington, N. C. W. H. May, hosiery manufacturer, is president; W. T. Cheatham, formerly with the Elmira Mill, is vice-president; C. V. Sellers, president of the Burlington Bank of Commerce, is second vice-president, and Paul Stevens is treasurer and general manager.

Mr. Stevens is also treasurer of the Stevens Manufacturing Company, of Burlington, N. C., which sells through T. Holt Haywood Department. R. W. Barnwell, formerly of the Elmira Mill, is secretary of the new company.

Walhalla, S. C.—An addition to the Kenneth Cotton Mills, which will practically double the capacity of the Oconee plant, will be built at once, according to announcement by W. K. Stringer, the owner of the mill. Plans have been completed and work will begin during the present week on the addition, according to Mr. Stringer.

The addition will in reality be another plant, and will be known as the Calla Mills, and will manufacture dyed yarns for the weaving trade, Mr. Stringer stated.

Plans for the new building, it is understood, have been approved, materials purchased and the work will get under way this week. Mr. Stringer did not announce the expenditure that would be made in connection with this enlargement.

Woodruff, S. C. — The Mills Mill No. 2 closed an additional contract with the T. C. Thompson and Bros., of Charlotte, for the erection of 50 new cottages to be built at once adjoining the village.

The Thompson firm is already at work will soon be completed for the is making rapid progress. Brick work on an annex to the mill which first story which is several hundred feet in length. In addition to the yarn department there will be a weaving shed which will house 700 to 1,000 looms, the excavation is being made for the shed all of which is expected to be completed within three months. The total expenditure of improvements at the plant is estimated to cost $750,000.

The plant was originally the W. S. Gray Cotton Mills built in 1908 with W. H. Gray, president, is was acquired three years ago by the Mills Mill Corporation. Arthur Ligon, of Spartanburg, is president. Walter T. Swink, of Woodruff, is local secretary. The product of the plant has been fancy long staple yarns.

Cotton Committee For Textile Institute

Walker D. Hines, president of the Cotton-Textile Institute, has appointed, pursuant to the action taken by the executive committee of the Institute at its last meeting, a cotton committee consisting of the following: Robert Amory, Boston, Mass.; John H. Holt, Fall River, Mass.; W. S. Pepperell, Providence, R. I.; J. C. Evins, Clifton, S. C.; E. C. Dwelle, Charlotte, N. C.; Geo. S. Harris, Atlanta, Ga.

This committee is empowered to confer with committees of organizations representing growers or distributors of raw cotton and to make for the Institute investigations and recommendations concerning subjects of common interest to the mills and either growers or distributors, or both.

Cordial relationships between the Institute and the American Cotton Growers' Exchange and the American Shippers' Association have already been established and the cotton committee will be in a position to promote co-operative work with each of these organizations as well as with the agencies concerned with the production or distribution of cotton.

The Fine Points of Carding

(Continued from Page 20)

This brings us to the front of the card. We first see that the doffer is in good condition and clothing tight setting it up to the cylinder to No. 7 gauge.

We haven't mentioned anything about cleaning and oiling the machine, but common sense will teach us that unless we keep the machinery clean and well oiled no matter how good a setting we have, or how good the machinery may be, it is useless as far as making perfect work is concerned.

We will now go on to the drawing and see how things look. We will first reduce the speed of the front roll just as slow as we can run it so as to keep up with the next process. When I first came on my present job the front roll on the drawing was making 520 revolutions per minute. We have it down now 240 revolutions per minute, and I would like to get it down to 200 per minute. Keep the rolls well cleaned and oiled at all times.

The trumpet on the drawing frames plays a very important part in the evenness of the numbers. In the card room unless the hole in the small end of trumpet is the same size, some of the ends will run slack and some will run tight, which will stretch the sliver. A good rule for finding the correct size of the hole is as follows: Weight in grains per yard × 1.80 will give you the size of hole at the small end of trumpet in thousandths of inch.

We now go on the flyer frame. I will always make it a practice to take my steel rolls out once a year and give them a thorough cleaning and reneck all rolls that are worn, also clean my top and bottom carriages with new grease. One of the most important things on the flyer frame is to keep all spindles in working condition, as it costs just as much to run a dead spindle as it does a working one. A very good system is to have one fixed when it gets out of order, and not put it off until Saturday. Keep all belts cleaned and everything doing its duty as it is intended for it to do.

Take all these scattered remarks I have tried to bring out and use some common sense and you will improve in some things. W. C. H.

Number Thirty-seven

The subject covers a very wide scope, inasmuch, as there are almost as many opinions on many points as there are good carders, and in most cases these opinions are worthy of our respect.

We are approaching this subject, assuming, of course, that we have a perfect lap to start with, because we must have a perfect lap if we are to produce perfect carding, even with a perfect card.

Beginning with the feed of lap into the card, we must consider the weight of lap, grade of stock, class of goods to be made and production required to supply the demand of the subsequent processes.

The feed roll must be in perfect condition, flutes free from foreign matter and also free from bruises caused by nails, pieces of bale ties and other metallic substances falling into the lap which should never be allowed to get there as they certainly cause many times more damage than the cost of keeping them out for the feed plate and licker-in also come in for their share of ruin. As the licker-in plays a very important part, it requires the utmost care. The entire working surface must be finished so that each tooth stands at exactly the same height and this can only be accomplished by a perfect winding of the wire. A minimum variation of 1-1000 of an inch is in some cases being considered as a very good working surface, but that of course, is imperfect and should not be considered impossible to overcome.

As the duty of the licker-in is to comb out the fibres as the feed roll delivers them in a tangled mass over the feed plate, and thence to the working surface of the cylinder, it is very important that the teeth be both even and sharp.

The cylinder being the greatest and most rapidly moving part and carrying a much greater working surface requires much more treatment. The clothing must be of the very best quality and put on cylinder by an experienced and careful man and, as the atmospheric conditions vary in the many localities where cards are operated, and those atmospheric conditions influence the condition of card clothing. Great care must be given to drawing on of clothing on cloth cylinder and doffer.

A tension of 350 to 380 pounds on new cylinder and 250 to 300 pounds on doffer clothing with a temperature of 75 degrees.

It is very wrong to draw clothing on a cylinder or doffer where temperature is very low as there is danger of straining or breaking of clothing by expansion of cylinder when temperature rises.

Grinding the wire on the cylinder must be done by a very careful man who is thoroughly "schooled in the art," who can exercise the very best of judgment as to when and how long, and how heavy to grind, and the correct speed to run both roller and traverse, to form the required point on the wire for the best quality of work. The wire on the flats is finer than on cylinder. Also the doffer wire is finer than cylinder so that less grinding is required for flats and doffer.

The drum roll used for grinding flats must be very carefully covered with best quality emery fillet of the number best suited to the number of wire on flats.

Much harm can be done by a small amount of indifference or, haste, trying to get the job done too quickly, when placing a grinding roll on a set of flats to be ground. Not only must the guide weights be set to work

freely and accurately, and the bearings properly oiled, and grinding roll accurately set at each end and guide set so that flats will pass under roll properly and chains just the exact length and tension to carry flats steadily, but close watch must be kept to be sure all these stay right all through the grinding process. As the carding operation is accomplished by the fibres being delivered to the cylinder by the licker-in and carried by the licker-in and carried between the cylinder and flats, there must be a perfectly even surface on flats as well as on the cylinder. High and low places caused by careless grinding will not result in a good quality of carded stock.

The doffer requires less grinding than the cylinder as the doffer receives the stock from the cylinder and it runs at a very low speed so that while its burden is very light its surface must be perfectly smooth.

A high or low place, or a mashed place in the wire will make a hole or a cloudy place in the web. The coiler is the final operation of the standard or one delivery type of card and places the stock into cans in condensed form known as sliver.

Now that we have followed the stock from the lap through the card, let us look briefly at the several positions, or distances of working parts with relation to each other known as "settings."

These settings are very delicately gauged to fine adjustments and here again must a high order of intelligence and keen judgment be exercised. Card settings are largely governed by the class of stock, class of goods and quantity of product.

Many varieties of settings are used and some cases differ on practically the same quality and quantity of carded stock.

So, it appears unnecessary to mention any specific order of settings for in any case it would apply to only those whose particular case required them.

For heavy goods where a production of around 160 pounds per card per 10 hours is required, and breaking strength of yarn is of extreme importance it is safest to test out a number of settings very thoroughly and adopt that which gives the desired results. The same proceedure would apply to a case on fine goods where a production of 80 or 90 pounds is required.

Cleanliness must in all cases and at all times be given the closest attention in the operation of cards and a thorough system of cleaning must be established and strictly adhered to.

After we have gone over the mechanical requirements, such as leveling, aligning and setting all the parts, making proper arrangements for oiling all bearings, using a suitable oil for each according to its load and speed, we must consider the human agency to be employed in the operation of the card. The card hand must know the duties of his machine as well as his own. In placing a lap he must piece the two ends together so that the same amount of stock goes through the feed roll as would go through were there no piecing.

It is easy enough to instruct a card hand to do this but one of the most essential "fine points" is to train the card help to do this and then know beyond a shadow of doubt that it is being done. A careless card hand is too expensive to keep.

Also when stripping, the end must not be pieced up until enough stock has accumulated on the doffer to bring the weight of sliver to normal.

This can be determined by timing to see how long it takes to reach normal weight and then require the stripper or card hand to wait just that long before piecing.

If a light place in the sliver should accidentaily reach the can take it out by all means.

A card must rest on a firm, steady floor, free from vibration, and kept perfectly level and alligned. All bearings adjusted to give perfect freedom of movement to all revolving parts, weights on feed rolls carefully regulated to suit weight and thickness of lap.

All openings at bottom and sides of card must be kept closed while card is running.

No air air currents must be allowed to flow through the channels where the fibres are being carded to disturb the film on its way to the doffer and causing unevenness in the web. The flat stripping comb must be set to remove strip from flats without striking wire and damaging both the wire on flats and the teeth on the comb. Brushes must be run at a speed that will keep flats clean and with correct grinding, excessive use of burnisher may be avoided and the life of the flats prolonged.

Where humidifiers are used in the card room extreme care must be taken to avoid excessive moisture which injures flats.

Too much stress can not be placed on the "fine points of carding," owing to vast numbers of parts employed in one machine, the variety of operations, and the fine adjustments required to change the bulk of lap into the delicate film and finally to a uniform sliver.

We have tried in a way to bring out a few of these, realizing of course that there is yet a vast territory to be covered in the art of carding which will doubtless be gradually developed as time goes on. ROMER.

Number Thirty-eight

Carding is the bost important process in cotton manufacturing. At times it is necessary for experiments to be made by graduate carders as well as by beginners as new conditions arise from time to time. We are now working under conditions where fixed rules do not hold in all cases and all wide-awake carders are aware that their ideas are subject to change from time to time.

During the past five years carders have learned more of opening, mixing and picking cotton than of any other process in their department. It has been found that cotton that is thoroughly aired gives up a much greater percentage of dirt, motes and trash than cotton that contains a greater amount of moisture. We therefore see that cotton should be opened several hours before using.

In reclothing cards. I unroll my fillet about 12 hours before using and p'ace it lengthwise in a doff box in a warm place in the mill. I then rub it down on back to prevent loose wires. I then proceed to cut my first taper, always making an inside taper. A 50-inch cylinder is 13.09 feet in circumference. I measure off 12 feet and start my first taper, running each one 18 inches, which crosses one crown every 18 inches. Four crowns are 72 inches or 6 feet. The remaining six feet are taken up in the second taper which is cut on opposite side from the first one. This is done to make the joint. The finished taper is made the same way. The tapers only are nailed.

I then put grinding rolls on and grind lightly for 8 hours, this being done to settle the clothing I then nail every other wrap and grind 6 to 8 hours. I find that I always have a good smooth surface that will stand a close setting.

When a cylinder fillet becomes soft or blistered it should be redrawn or replaced with a new one, as it is impossible to get a good setting with soft fillet.

I have experimented with settings quite a bit and find the following give best results on medium grades of cotton: Doffer .007; licker-in .007; flats .010; feed plate .010; back knife platte .022 top and .029 bottom; stripping plate .022 to .029 according to amount of strips wanted; doffer comb .017; stripper comb .017; screen to cylinder, front ¼-inch; bottom .024, back .029; lip of licker-in to screen ⅛-inch.

Screens should be taken out and thoroughly cleaned and reset every 6 months. Cards that are carding heavy need grinding more often than when carding moderately or lightly. Where the work is carded moderately, cards should be ground every 15 days, setting the doffers each time, back second round and flats third round. You then have your back and flats set every 45 days which I think is often enough, providing you see that mote knives stay up. I think it a good idea to have doors dropped in back and mote knives examined every day. It only takes a grinder a few minutes and saves much bad work.

Oiling is very important in carding and too much oil will ruin the fillet or lack of oil allows bearings to wear and you cannot get the proper settings. The boxes should be cleaned out and new cup grease put in every 3 months.

In creeling in laps tail ends (about 2 inches) should be broken off, as these ends are usually hard doubled and wrinkled and they strain the mote knives and knock them off and sometimes break the brackets. If they go through they make a heavy place in the sliver.

Traverse grinding rolls should be covered weekly. Drums should be recovered every 60 days. The grinder should be a man who takes pride in his work and who wants his section to be the best in the room. The overseer should catch him unexpectedly once in a while and try out his settings. If they are good, he should tell the grinder so, if not he should reset the card and have the grinder feel the gauges and encourage him. The stripper must be a man who can be relied upon and should be taught how poor stripping affects the work. Card hands should know that poor stripping makes the work run bad and if the stripper does not do his work properly, they should report it to the overseer.

One card should be stripped before the end is pieced up and one fine work two cards should be stripped before the ends are pieced. Cans should not be allowed to fall over or lean from side to side because they are too full. This allows sliver to come in contact with stationary part of the coiler head and become stretched. The overseer should make several rounds each day regardless of the condition of his cards, or the work that he is producing and if he does not find something wrong, he should doub'e back as there is some little thing going wrong that will grow if he does not check it.

Cloudy webs are usually caused from feed plate being off, motes knives being off or dull places in the licker-in lap or dull licker or licker-in. Neps usually result from blistered or faced clothing, or flats being off.

PROGRESSIVE.

The Inter-Roving Frames

(Continued from Page 17)

ing eliminates 18 intermediate frames and 8 roving frames, or 2266 intermediate spindles, and reduces its roving spindles from 5446 to 4164. A mill to spin 36s from single roving eliminates 14 intermediate frames and 8 roving frames. A mill to spin 60s from double roving eliminates 17 intermediate frames and 13 roving frames.

Index To Advertisers

Where a — appears opposite a name it indicates that the advertisement does not appears in this issue.

Design and Color in Cotton Goods

(Continued from Page 14)

in our trade for cloth in the grey state, and that the future must lie in those fabrics which depend for their value in the way they are subsequently treated in the beauty of design, finish, and careful arrangement of color effects.

The Ideal Aim.

To make a fabric better than it had ever been made before is an "ideal;" and not only to make it better, but by efficient organization in the works to make it cheaper and more fit for its purpose, is "practical idealism." Artistic quality in color and design, combined within commercial and industrial limitations, will secure the lead for our cotton goods in competition for foreign markets. Many influences are at work in this matter. The prize schemes and design competitions of the Textile Institute, of the Federation of British Industries, of the Royal Society of Arts, and others, should bring artists and produceds in closer touch with one another, and eventually supply all the needs and demands of the textile industry without seeking the designs of Continental artists.

Lately there has been a considerable advance in British textile design especially in fancy dress fabrics, brocades, shirtings, and printed cretonne hangings. These show better taste, livelier colorings, and more originality in most of the materials, along with a greater tendency to follow the prevailing fashions. This was emphasized during the recent Civic Week in Manchester, when a great range of textile designs and colorings were displayed in the shops and at the Textile Exhibition. The effort proved that modern art in combination with modern technology has created a higher standard in textiles, the effect of which should have only one result—namely, increased demand and increased production of fabrics.

Although the Textile Exhibition served its useful purpose for the general trade, and marked the advance and enterprise of Lancashire mills in the lead they have taken in the manufacture of cotton and artificial-silk goods, the man features of the cotton industry were not touched to any extent; the fabrics for export abroad could not be displayed to the public.

The range of vivid, gorgeously colored, cottons, stripes, checks, spots, etc., dyed, woven, and printed by the Lancashire mills and finishers, to serve the different purposes and markets, is too wide to describe. For instance, the great trade in dhooties with bright, narrow borders, for India; jeans for Egypt, Asia Minor, and Persia; ka-dungas or loin cloths worn by most of the African natives; the woven stripes for Cuba; bright-colored cottons for the Malay States and other countries, are to mention only a few of the cloths and their respective markets. All these points must be carefully watched in the future by merchants in close co-operation with agents on the spot, in order to maintain and open out new trade connections.

New cloths, new colorings, new designs, appeal to Oriental and native customers more than ever, and he is more exacting and particular in his selection nowadays; therefore, it rests with the trader to find out the real needs of these very important customers, and launch out new ideas for the more remote districts.

One has only to note the quick-changing fashion in women's dresses in Turkey, Asia Minor, India, China, and other countries, to see an outlet for our cotton textiles. Nevertheless, a large number of our buyers and salesmen are unaware of these constant changes, until after a foreign competitor has investigated and supplied the needs.

Men with ambition are wanted urgently. Those who are fit to endure travel and [illegible] some adventure should inquire and apply for posts to open out trade overseas; others, by careful study of business methods, markets, languages, and other essential requirements, can fit themselves for higher and more responsible positions at home.

Pacific Mills "Workshop"

A new unit in a textile manufacturing organization, a shop which produces finished articles to demonstrate the appropriateness of the fabrics for various uses, is described in the June number of "Pacific," just issued by Pacific Mills. The publication says:

"The Workshop" is a recent addition to the sales promotion department of Pacific Mills, 24 Thomas street, New York. It is a shop in which fabrics are made up to demonstrate their suitability for various recognized uses and to test their appropriateness for new uses. Through the products of "The Workshop" the selling departments of the company are able to display samples of their goods as finished wearing apparel, draperies and other household articles, toys, novelties and decorative pieces. The work is done by a specialist who is under the direction of the sales promotion department.

One of the duties of the workshop is to demonstrate where the company's fabrics belong with respect to type of garments or other use, and also with respect to price range of the finished article. "The Workshop's" operations give the selling departments and the trade practical information about the fabrics based upon their actual application to serviceable purposes. The shop has demonstrated that cottons are appropriate for many uses to which they have not been heretofore applied.

The bulletin contains illustrations of new decorative uses for cotton fabrics, including Lustra Drapery framed and given a coat of shellac producing the effect of a floral panel done as an oil painting, a lamp shade, and an attractive casing for a clothes hamper made of gay cretonne. These suggest new outlets for a considerable yardage of cotton goods.

Valuable Data on Yarn Spinning

(Continued from Page 12)

Inches traveled by rail in one minute.	4 8¾	— 8⅝ 12	— 5¾ 7		8⅝	3¼
Kind of wind for warp yarn.	Warp Fill.		Warp Warp Warp			
If warp yarn give dia. of barrel of bobbin.	15-16 13-16		⅞ ⅞ 13-16			
No. yarn being spun.	**22's**	**23's**	**24's**	**25's**	**25's**	**26's**
Warp or filling.	F.	F.	W.	W.	F.	W.
Grade and staple cotton.	1sm	1 5-16 1m	⅞sl	1sl	1m 1 5-16slm 1-1 1-16	1 1-1 1-16lm
Hank roving.	4.03	4.70 3.22	4.76	4.25	3.10 3.90 3.50	6.25 4.50 4.60
Roving twist per inch.	3.25	3.10 2.85	2.50	2.82	2.30 6.00 2.86	3.85 — 2.76
Setting of spinning rolls center to center.	1 1-32	1 Closed	Closed	1 1-16 & 1⅛	1⅛ 1 1 1-16	1 1 1-16 1 1-16
R. P. M. of front roll.	132	1'2 138	124	118	128 127 124	120 124 117
Spindle speed.	7630	7400 7535	9100	9600	7000 8000 7141	9571 9500 9300
Twist per inch in yarn.	17.19	18.50 17.10	23.00	24.45	17.60 17.50 19.92	25.38 24.32 24.33
Size ring and flange.	1⅝ No. 1⅝ No. 2	1⅝ No. 1⅝ No. 2	2 No. 2	1¾ No. 2	1½ No. 2 1⅝ 1⅝ No. 2	1¾ No. 2 1¾ 1⅝ No. 2
Gauge frame.	3¼	2¾ 2¾	2¾	2¾	2¾ 2¾ 2¾	3 2¾ 2¾
Length of traverse.	6½	7 7	7	7	7 6¼ 6¼	7 6½ 6½
Length of stroke.	1 7-16	2¼ 1½	6½	6	1 9-16 — 1½	5½ 2 1½
Separators or not.			Yes	Yes	Yes No No	Yes Yes Yes
Weight in grains of ten travelers used.	14	— 11	9	8½	5 7 9	9 — 6
Inches traveled by rail in one minute.	5¾	— —	2½	2½	2½ — 6¼	— — —
Kind of wind for warp yarn.			Warp	Warp		Comb Fill. Fill.
If warp yarn give dia. of barrel of bobbin.			⅞	⅞		¾ 13-16 ⅝
No. yarn being sun.	**22's**	**23's**	**29's**	**38's**		**42's**
Warp or filling.	W.	W.	W.	F.		F.
Grade and staple cotton.	1m 1 5-16slm 1 1-16lm 1m ⅞lm	⅞ ⅞lm 1 5-16 1m	1-1 1-16sl 1 1-16sl & 1m 1m 1lm	1 1 1 1-16sl		1 1 1 1-32sl 1-1 1-16 sl
Hank roving.	3.10 3.90 3.10 3.20 2.75	4.00 4.60 4.80 4.22	5.50 5.25 5.40 5.18	7.25 6.25 6.25		7.25 7.25 7.00 6.70
Roving twist per inch.	2.30 6.00 2.32 2.38 2.25	— 3.00 3.10 3.18	3.46 3.31 3.21 3.39	4.12 3.85 3.62		4.12 4.12 3.95 3.83
Setting of spinning rolls center to center.	1¼ 1 1 1-16 1⅛ 1 1-16	1 1-16 1 1 Closed	1 1-16 1 1 1-16 1 1-16 & 1 1-16	1 1 1 1-32		1 1 1 1-16 1 1-16
R. P. M. of front roll.	123 132 118 120 120	102 122 130 128	109 114 121 115	108 104 111		104 104 100 92
Spindle speed.	8700 9000 7970 8500 9000	7242 8380 9200 9306	8700 9280 9600 8878	8232 7510 8310		8232 8232 8400 7503

Twist per inch in yarn	24.20 21.11 23.68 22.82 23.96	22.75 20.33 23.00 22.90	28.03 25.34 25.72	25.52 23.04 23.44	26.93 26.93 22.50 28.03
Size ring and flange.	1¾ No. 2 1¾ 1⅞ No. 2 1⅞ No. 2 1⅞ No. 2	1¾ 1⅞ 1¾ No. 2 1¾ No. 2	25.08 1⅞ No. 2 1¾ No. 2 1¾ No. 2 1 13-16 No. 1	1 5-16 No. 1 1⅞ No. 1 1⅞ No. 2	1 5-16 No. 1 1 5-16 No. 1 1⅞ No. 2 1⅞ No. 2
Gauge frame.	2¾ 3 2¾ 2¾	2¾ 3¼ 2¾ 3	2¾ 2¾ 2¾ 2¾	2¾ 3 2¾	2¾ 2¾ 2¾ 2¾
Length of traverse.	7 7 7 6½ 7	8 7 7 7¼	7 7 6 6	5½ 6 7	5½ 5½ — 5¾
Length of stroke.	— — 1¾ — 1¾	7¼ 1⅞ 5½ 1⅞	1½ 6¾ 6 6½	1⅜ 2¼ 1¾	1⅜ 1⅞ — 1½
Separators or not.	Yes Yes Yes Yes Yes	Yes No Yes Yes	Yes Yes Yes Yes		
Weight in grains of ten travelers used.	7½ 10 10 11 9	8 6 7½ 9	7½ 8 7½ 7	4 6 3¾	3½ 3½ 2½ 3 8-10
Inches traveled by rail in one minute.	5 — 6½ 3½ 4¼	6¼ — — 3	4½ 1⅞ 3½ 3½	— 3¾	4½ 4½ — 4¼
Kind of wind for warp yarn	Warp Warp Fill. Warp Fill.	Warp Fill. Comb Fill.	Fill. Warp Comb Warp		
If warp yarn give dia. of barrel of bobbin.	— ⅞ ⅞ 15-16 ¾	⅞ ⅞ ¾ ¾ —	— ⅞ ⅞ 13-16		
No. yarn being spun.			30's		
Warp or filling.			W.		
Grade and staple cotton.	1sm 1 1-16 1m	1m 1sl 1 15-16sm	1sl ⅞-1 1m	1 1 1	1m ⅞-1m
Hank roving.	6.00 5.00 5.95	3.35 5.46 4.88	5.70 6.25 5.80	6.10 6.00 3.10	6.06 5.25 5.00
Roving twist per inch.	3.38 — 3.60	3.15 3.63 2.88	3.64 3.69 4.75	3.64 3.44 2.58	3.64 3.75 3.50
Setting of spinning rolls center to center.	1 3-32 1 1-16 1	1 1-16 1 1	1 1-16 1 1⅛	1 1-16 1 1⅝	1⅛ 1⅛ 1⅛ & 1 9-16
R. P. M. of front roll.	119 120 116	109 108 116	111 110 116	117 114 112	115 116 110
Spindle speed.	10203 9000 8900	8997 9000 9300	9033 9548 10003	9109 9300 23.30	8600 9000 9000
Twist per inch in yarn.	26.66 30.00 24.45	26.56 26.03 26.00	25.91 26.93 —	26.20 27.04 1¾	25.90 25.83 24.00
Size ring and flange.	1⅝ No. 1 1⅞ 1¾ No. 2	1⅝ No. 2 1¾ 1⅞ No. 1½	1¾ No. 2 1⅝ No. 2 1⅝	1⅝ No. 2 1¾ No. 2 3	1⅝ No. 2 1⅝ No. 2 1¾ No. 2
Gauge frame.	3½ — 2¾	2¾ 2¾ 2¾	2¾ 2¾ 2¾	2¾ 2¾ 2¾	2¾ 2¾ 3½
Length of traverse.	6½ 6 7	7 6½ 6½	8 7 6	7 6½ 1½	8 6 7
Length of stroke.	1¾ 5½ 1¾	1¾ 1¾ 6½	1½ 6¼ 6	1½ 2 2	7 1½ 1½
Separators or not.	No Yes Yes	Yes Yes Yes	Yes Yes Yes	Yes Yes Yes	Yes Yes Yes
Weight in grains of ten travelers used.	5¾ 4¾ 6-0	7½ 5¼ 6	8 8 —	6 6 5¼	5½ 9½ 4½
Inches traveled by rail in one minute.	6.03 3.00 6.11	2¾ 3 3⅛	6 3¾ —	3 5 7	3¼ 5¾ —
Kind of wind for warp yarn.	Fill. Warp Fill.	Fill. Warp Warp	Fill. Warp Warp	Fill. Fill. Fill.	Fill. Fill. Fill.
If warp yarn give dia. of barrel of bobbin.	15-16 15-16 ⅞	¾-⅞ 11-16 13-16	¾ ⅞ —	⅞ 11-16 13-16	⅞ 13-16 —

(Continued Next Week)

Visiting Europe

(Continued from Page 7)

Woolen Mills at Spray, N. C., who was also attending the Ostend convention but had gone over on another ship.

For about ten miles out of Ostend there were no evidences of the war but then we entered an area such as I had never seen before. During the next fifty miles of our drive, with the exception of a portion of Ypres, every house was new.

It is an open country and in some places we could see for many miles, but always there were new houses with their new looking red tile roofs.

Every single house, which in many cases meant large villages, was destroyed by shells or dynamite, and since the war they have been rebuilt upon their former foundations.

It was interesting to enter a village and find every house with a shine of newness.

Belgium is a beautiful and fertile country and every foot of ground appeared to be in a high state of cultivation.

Just outside of Ypres there was a monument that marked the point at which the Germans were stopped and also a monument to the Canadian troops that played a big part in that battle.

Ypres itself has been rebuilt with the exception of a beautiful exposition building in the center of the city that was formerly used to exhibit the products of the manufacturing plants of that section.

After taking lunch at Ypres we followed the battle front to Dixmude and then to Nieuport. On both sides of the road were concrete structures used by both armies as dugouts. These dugouts were placed about one hundred yards apart and each army had several rows of them.

At Nieuport we went through a line of Belgium trenches and our guide who fought in the Belgian army told of the stopping of the Germans at that point by opening some of sluice gates, and stated, with evident pleasure, that several thousand Germans were caught by the waters and drowned. All of Holland and most of Belgium is below sea level and the waters are held back by dikes.

We returned to our hotel that night with some idea of the task accomplished by the Belgian soldiers assisted by the French and English, which, of course, includes the Canadians.

On Monday, June 6th, the convention of Rotary International was called to order by President Harry H. Rogers, of San Antonio, Texas, who is president of a cotton mill at that place and is classified in Rotary as a cotton manufacturer.

Harry Rogers is a man of great ability and his personality made a distinct impression upon those who attended the convention.

As our readers are not interested in the details of the Rotary convention, except in a general way, I will not describe its proceedings except to say that it was represented by a remarkable series of addresses by men who came from every part of the world and who spoke different languages but all of whom expressed a desire for the extension of international good will.

Probably the ablest address made in English was by William Thomson, of Denmark.

On Monday at noon I attended a lunch at the Kursaal, which was presided over by King Albert of Belgium.

Only a limited number were invited but by the good fortune of being a District Governor and therefore a member of the Official Family of Rotary, I received an invitation.

King Albert is exceedingly democratic and is probably the most popular ruler in Europe. He is about six feet tall and with his large head and yellowish hair reminds one of the vikings of ancient days.

Another privilege that came to me as the result of being a member of the Official Family of Rotary was to attend a dinner at Bruges, Belgium, at which a charter was presented to the newly organized Rotary Club of Bruges.

The dinner was in the municipal building, which was erected in the year 1100, and on all the walls were magnificent paintings, many of them by the old masters of Europe.

On one side of me sat a Rotarian from Holland and on the other one, one from Belgium, but fortunately both could talk some English.

It was an international meeting in every respect and the speeches were made in five languages.

One speaker was from South Africa and another from Mexico.

The president of the new Bruges Club could not speak English but one member of his club made a speech in very good English.

Driving back to Ostend, through the country, that night, I was impressed with the fact that, as we passed through villages, all windows were tightly closed.

The Belgians and also the French do not believe in fresh air and sleep with all windows closed. Their health record is just as good as that of the fresh air cranks in the United States and causes me to wonder if fresh air idea is much more than a fad.

The Rotary convention came to a close at noon on Friday and I took the train for Bussells, Belgium, where I had reservations at the Palace Hotel, which is just across the street from the railway station.

Mrs. Clark and the other two ladies in our party had gone up on an earlier train and not knowing that the Palace Hotel was across the street, told a taxicab driver to take them to the hotel.

He drove around a large number of blocks and finally reaching the hotel on the other side, demanded and received a large fare. That was our first experience in the European game of robbing the American, but it was by no means our last.

I spent Saturday morning seeing the sights of Belgium and then attended a Rotary Club lunch over which the Crown Prince of Belgium presided. He resembles the King but is very much smaller.

We had reservations upon the Paris express at 4 o'clock but came very near missing it because of the time it took to get our baggage from our rooms to the taxicabs.

We had given tips to the maid and the room steward on our floor but they wanted to get together everybody in the hotel and did not let our bags appear until the army was gathered.

With our baggage came an army with its hand out, most of whom we had never seen and practically none of whom had rendered any service to us. In our desperation we gave money where none was due and loaded the baggage as quickly as possible.

After getting on the train we found that a grip belonging to Ham Jones was missing and although we wired a friend who was staying at the hotel, he could not locate it and it was lost with the clothes that it contained.

Probably someone whom we overlooked took it as his tip.

We had been told that the express from Brussels to Paris had American Pullman cars but they bore only a slight resemblance to Pullmans.

However, it was a fast through train and we reached Paris about 7:30 that evening and went to the Continental Hotel, which was an excellent place, although the charges were much higher than similar hotels in New York.

One thing that surprised me about the hotels in Europe is the dinky little elevators. They are small and very seldom can carry more than four people. The cost of installing real elevators instead of the little "lifts," as they call them, would not be great and would be less than the unnecessary and extravagant decorations of many rooms.

For five nights and four days we saw the sights of Paris by day and the theatres and night clubs by night, and the manner in which we were always overcharged made us continually aware of the fact that we were Americans.

Paris is a beautiful city with many interesting features and a man would not mind paying well for what he got but for knowing that at every turn he was overcharged and robbed.

(To Be Continued)

Cotton Goods

New York.—The influence of the holiday made for a quiet week in cotton goods during the week. The market held steady however, and mills are well sold ahead on many lines including print cloths, sheetings, narrow drills, shade cloth and several other lines. Trade in wash goods was good with the wholesalers, retail demand being steady throughout the week.

Reports from the printing and converting trades show that they have just completed the best six months' business they have had in several years. Printed goods have been the biggest factor in this business.

In fine and fancy goods, a large business has been sold for the next season, order for fine and fancy cottons, rayons and silk mixtures being very large. Trade in towels has been large, sheets and pillow cases are well sold for future delivery and a good business in summer cotton blankets has been done.

Gray goods markets were generally quiet. There continued to be reports of inquiry for print cloths at prices slightly under current quotations, similar to the interest that has been noticed for the past 10 days or more. There were further intimations that some of this business had been placed, but nothing definite was heard and as far as mill quotations were concerned, these were holding about as steady as they have been rightalong.

A number of buyers were in the market for substantial quantities of print cloth constructions which they appeared willing to cover ahead on at ⅛c concessions. Mills were very firm in their asking prices and would not concede for the July and August period, these months interesting buyers. Scattered sales were put through, fewer than during the last few days. The quantities required have been for filling in purposes rather than for contract deliveries. There is general willingness to wait for development next week.

Mills sold spot 68x72s print cloths at 8¾c and early July sold at the same figure. A few smaller lots of 64x60s sold at 7¾ and second sales, of no importance, were made at 7 5-16c. A little was done on 60x48s at 6 5-16c and quick 72x76s brought 9½c. Activity on 80 squares was limited to trivial quantities selling at 10¼c with offerings East at 10½c. The usual sales was reported to be around 10,000 to 25,000 yards. Mills held 64x56s for 7⅛c to 7¼c; 6.60-yard, 6c; 44-inch 7.25-yard, 5⅞c; 8.20-yard 5c to 5⅛c.

Scattered sales of sheetings were reported in a few centers, but generally the situation was unchanged. Some late deliveries of 31-inch, 48x48, 5.00 yard sold at 6½ cents, net. Spots of 36-inch, 48x40, 5.50-yard sold at 6 cents, net. Sales of 40-inch, 48x44, 3.75 yard at 8⅜ cents net, October. Late 40-inch, 48x48, 2.85 yard sold at 10¼ cents, net. Some 34-inch, 40x40, 6.00 yard reported sold at 5¾ cents net.

Sales of 40-inch, 76x72, 9.00 yard combed lawn recently at 10⅜ cents contract and three-quarters spot; spots of 35-inch, 96x100, 22-26 single-end Cantons sold at 19½ cents. There were reports of sales of 60x44, so-called rayon alpaca, super-carded warp, at 15¼ cents. Foreign rayon makes of 48 pick goods reported sold at 16 cents, quick, second hands.

In broadcloths considerably more second hand offerings have come out. It is stated that various buyers have yardage backing up on them and are willing sellers but at mill prices. First hands have goods to offer and resellers are not disposed to take losses so are not cutting quotations. Bale lots have been moving in various quarters.

Reports indicate a number of 64x48s combed rayon and cotton mixtures sold on contract at 16c with B grade viscose filling. A number have carefully checked the market and find 16½c the general eastern basis and this can only be shaded ⅛c for sizable lots in isolated instance. There were second hands at 16c of imported makes. Dobby 64x 48s sold at 17¾c and 17Tc and 64x 52s at 18¾c.

Voiles have been quiet for the most part though one or two larger quantities sold at close to the open market quotation. A number of small lots of scrim voiles sold at 8⅛c and 8¼c for the 48x40s and 7⅞c was paid for a very large quantity of what is described as 48x36s. A number hold 48x40s firm at 8½c for best makes the lower price applying to secondary qualities.

Cotton goods prices were quoted as follows:

Print cloths, 28-in., 64x64s..	6
Print cloths, 28-in., 64x60s..	5¾
Print cloths, 27-in., 64x60s..	5½
Gray g'ds, 38½-in., 64x64s....	7¾
Gray goods, 39-in., 68x72s....	8⅝
Gray goods, 39-in., 80x80s....	10⅝
Brown sheetings, 3-yard.....	10¾
Brown sh't'gs, 4yd., 56x60....	9
Brown sheetings, stand.....	11¾
Tickings, 8-oz. 19	a20½
Denims	15
Staple ginghams, 27-in.....	9
Kid finished cambrics	8½a 9
Dress ginghams 14⅝a	16½
Standard prints	8

The Yarn Market

Philadelphia, Pa.—Trading in cotton yarns continued quiet during the week. The July 4 holiday took many buyers out of the market at the week end and added to the general dullness of the week. There were no new developments in the situation, trading being on the same limited basis that has been evident for the past several weeks. Buyers are reluctant to consider future yarn supplies except at prices much lower than spinners will accept and confined their orders to small lots for filling in purposes. The small business done showed that the demand for knitting yarns is still better than for weaving yarns.

There was no change in prices quoted by spinners. The dealers price list here shows lower quotations than spinners are asking and concessions on stock yarns were noted in several quarters in this market.

Coarse knitting yarns, in both combed and carded grades, have had a fair sale during the week. Some business has been done in insulating yarns, and inquiries in the market indicate that a fair business is to be expected in these grades. Buyers of carpet yarns have been looking around and have placed some orders. Thread yarns have been quiet, although inquiries received show that there is interest in these varieties in some quarters.

Both combed and mercerized yarns as well as colored specialty numbers have been moving in only a limited way and for the most part at unchanged prices. The majority of Southern combed yarn spinners continue firm in their quotations and in some instances a firmer attitude is being displayed. While some slight concessions have been made to buyers it is pointed out that the weakness is due to dealers shading commissions rather than weakened selling on the part of spinners.

Quotations in the Philadelphia marget, given below, are generally lower than spinners will accept:

Southern Two-ply Skeins.

8s	27½
10s	29½
12s	29½
14s	30½
16s	30½
20s	32
26s	36
30s	38
40s*	47
40s†	48½

Southern Two-ply Warps.

8s	28½
10s	29½
12s	29½
14s	30
16s	31
18s	31½
20s	32
24s	34
26s	36
30s	38
40s*	46½

*Ordinary. †High grade.

Southern Frame Spun Carded Yarn on Cones—Cotton Hosiery.

8s	28½
10s	28½
12s	29
14s	29½
16s	31
18s	31½
20s	32
22s	32½
24s	32½
26s	33
30s	34½
40s	46

Southern Single Skeins.

4s-8s	28
10s	28½
12s	29½
14s	29½
16s	30
18s	30½
20s	31
22s	31½
24s	34
30s	34½
40s	44½

Southern Single Warps.

4s-8s	28½
10s	29½
12s	29½
16s	30½
18s	31½
20s	32½
24s	34½
30s	36½
40s	46½

Carpet and Upholstery Yarn in Skeins.

8s	to 9s 3-4-ply tinged tubes 23 a
8s	3-ply hard white warp twist 25½a
10s	and 12s 3 and 4-ply hard white yarn, tubes and skeins 25½a25
	yarn, tubes and skeins 25½a26
	Same, warp 26½a27¼

Southern Two-ply Comber Peeler Mercerizing.

8s-12s	44
20s	45
30s	49
36s	54
38s	56
40s	57
50s	59
60s	68
70s	78
80s	91

Southern Two-ply Hard Twist Combed Peeler Weaving Yarns.

8s-12s	40½
10s	42½
30s	47½
36s	52½
40s	54½
50s	55½
60s	57½
70s	77½
80s	86½

Two-ply Mercerized Yarn.

20s	62
30s	66
40s	71
50s	78
60s	87
70s	1.01
80s	1.14

1,000 at Opening of Chicopee Mill.

Gainesville, Ga.—More than 1,000 people, from all parts of Georgia, attended the opening ceremonies at the new Chicopee Mill of the Johnson & Johnson Co., here and enjoyed the barbecue on the mill grounds.

Sidney O. Smith, president of the Gainesville Chamber of Commerce, presided over the exercises, which included an invocation by the Rev. C. G. Richardson, of Grace Episcopal church; a speech by United States Senator Walter F. George; presentation of a silver pitcher from the citizens of Hall county to Robert W. Johnson, vice-president of the mill, brief addresses from A. F. Chapham, controller, and Charles A. McCormick, treasurer of the mill.

Want Department

Position Wanted

Young married man with executive ability desires textile connection. Five years mill office experience. Now employed but wishes to connect with organization offering opportunity for further advancement. Satisfactory references furnished. Address G. M. V., care Southern Textile Bulletin.

For Sale Cheap!

1 Kitson 34" Automatic Feeder and preparer with one 3 blade plain beater through cleaning trunk to breaker lapper on 2nd floor.
1 Cohoes 2-cylinder Slasher, 7 ft. and 5 ft. complete.
1 Cotton Truck; 1 Howe Platform Scale; 2 Curtis & Marble Inspection Machines.

E. B. Kitzinger
10 S. LaSalle St., Chicago.

Whitin Combers
At Bargain Prices

For quick sale we have priced the following machinery away below its value:
12—8 Head Combers, 12" lap.
2—Sliver Lap Machines.
2—Ribbon Lap Machines.
36—6 Head Combers, 10" lap.
4—Sliver Lap Machines.
4—Ribbon Lap Machines.

This machinery now in operation producing first quality work. Will sell as a whole or in part.

Louisville Cotton Mills Co.
Louisville, Ky.

Wanted

Position as Napper Overseer, Twenty years experience. No. 1 references. Age 41. J. C. B. Box 246, Phenix City, Ala.

Wanted to Buy

Fancy roller attachments for 40 inch flats cards. Must be complete with pulleys. Give prices in first letter. Little Rock Textile Company, Little Rock, Arkansas.

Want
Band Director

Who will also work in mill. Address "Band," care Southern Textile Bulletin.

EXPERT
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Shafting work of all kinds. Can erect any kind of bearings. 20 years' experience in erecting and overhauling. First-class work at reasonable prices.

G. L. ALVERSON
Simpsonville, S. C.

For Sale

One Murray Cleaner. First-class condition. Price low. Watts Mills, Laurens, S. C.

For Sale

100 90" L Model Northrop Looms, made by Draper Corp. 2 harness, 2 bank stop motions. Looms about 12 years old; in good condition and may be seen in operation. Address "Looms," care Southern Textile Bulletin.

Information. Wanted

As to whereabouts of Mae Mosely. Formerly resided in Mayo, S. C. 25 years of age; tall; weight about 102 lbs; wears glasses; one gold tooth in front; long, light hair. Notify Mrs. Ada Blackwood, Rfd. 1, Cowpens, S. C.

For Rent

Brick building suitable for small textile plant. Ideal for knitting or specialty weaving mill. Two stories and basement, approximately 8,000 square feet of floor space. Side track at door, two loading platforms, freight elevator. Located in heart of Charlotte. Rent $125 per month. Apply to General Equipment Company, 1411 S. Mint Street, Box 412, Charlotte, N. C.

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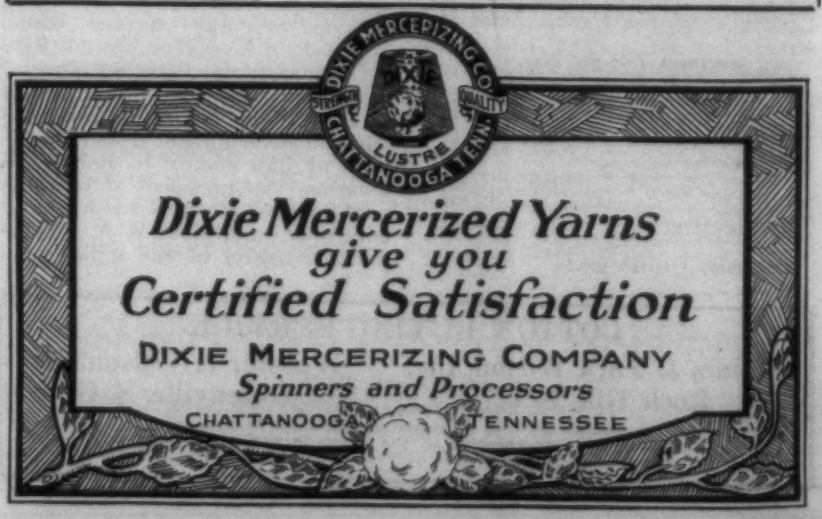

EMPLOYMENT BUREAU

The fee for joining our employment bureau for three months is $2.00 which will also cover the cost of carrying a small advertisement for two weeks.

If the applicant is a subscriber to the Southern Textile Bulletin and his subscription is paid up to the date of his joining the employment bureau the above fee is only $1.00.

During the three month's membership we send the applicant notices of all vacancies in the position which he desires and carry small advertisements for two weeks.

We do not guarantee to place every man who joins our employment bureau, but we do give them the best service of any employment bureau connected with the Southern Textile Industry.

WANT position as manager or agent. Many years experience in both yarn and weave mills. Good character, loyal and efficient. No. 5200.

WANT position as overseer spinning in Texas, Ark., La. or Miss. 40 years of age. 20 years experience. Can handle small or large room. No. 5201.

WANT position as Superintendent or overseer weaving; can handle auto fabrics or plain goods. Would consider a good yarn mill. No. 5202.

WANTED by young man 21 years old with good references, position in mill office. Completed High School and the Georgia College of Commerce. Good stenographer and familiar with adding machine. No. 5203.

WANT position as superintendent, overseer carding or overseer spinning. References to anyone interested. No. 5204.

WANT position as overseer carding. 21 years experience on all kinds of work. No. 5205.

WANT position as overseer weaving. Experienced and competent. No. 5206.

WANT position as agent, superintendent or manager, anywhere. No. 5207.

WANT position as overseer carding, spinning, or spooling, twisting and warping. Can give the best of reference. No. 5208.

WANT position as superintendent, or as overseer weaving in a large mill. Best of references. No. 5209.

WANT position as overseer weaving. 10 years experience on plain and fancies, cotton or silk. Familiar with Draper, Stafford and Crompton & Knowles looms. Guarantee satisfaction. No. 5201.

WANT position as overseer weaving, wide and narrow sheetings, drills, sateens or krinkled bedspreads. 18 years experience in weaving, warping and slashing. No. 5211.

WANT position as overseer cloth room. 20 years experience. Good references. Married and strictly sober. Can change on short notice. No. 5212.

WANT position as overseer weaving. 10 years experience on plain, drills and twills. Can furnish best of references.

WANT position as overseer carding, large mill. Fully acquainted with combed and carded work. Best of references. No. 5214.

WANT position as overseer weaving, plain, fancies or broadcloth. Draper, C. & K., dobby work. Good references. No. 5215.

WANT position as overseer spinning. Experienced, efficient. No. 5216.

WANT position as overseer cloth room. 20 years experience. Understand cloth grading and a good manager of help. No. 5217.

WANT position as overseer carding. In present position 5 years. Personal reasons for wishing to change. Best of references. No. 5218.

WANT position as superintendent, overseer spinning or overseer weaving. Can handle 2,500 looms and slashing in any mill. References. No. 5219.

WANT position as cashier, bookkeeper or other clerical work in mill office. Good stenographer, typist and correspondent. A willing worker. 9 years experience. No. 5220.

WANT position as overseer weaving. Would consider a night job. Eight years experience. Can handle large job. No. 5221.

WANT position in Piedmont section as mill office stenographer and general office work. Experienced. Good reference. Am a lady 23 years of age. No. 5222.

WANT position as overseer weaving. Overseer 10 years. I. C. S. diploma. Want to locate in North or South Carolina. 34 years old. Married. No. 5223.

WANT position as overseer weaving on plain or corded goods. 20 years experience. Best of references. No. 5224.

WANT position as overseer weaving. Experienced and competent. Good references. No. 5225.

WANT position as spinner. Familiar with carded and combed yarns, coarse and fine yarns. 10 years overseer. Best references. No. 5226.

WANT position as carder, spinner, or superintendent of same. References on request. No. 5227.

WANT office position—bookkeeper, time keeper, shipping clerk, or receiving clerk. No. 5228.

WANT position as dyer. 10 years experience on raw stock and skeins. Married and now employed. Address T. S., No. 5229.

WANT position as superintendent. 20 years experience white and colored work. Now employed. Carolinas preferred. No. 5230.

WANT position as assistant superintendent or overseer spinning. Age 35. Employed but want better location. Best of references. No. 5231.

WANT position as overseer carding or superintendent of yarn mill. Can make quick change, and give best of references. No. 5232.

WANT position as overseer small or second hand in larger fancy weaving department. 18 years weaving experience—6 years second hand. Good references. No. 5233.

WANT position as overseer carding. 20 years experience, grinding, fixing speeders, running picker and card room. Want day job. No. 5234.

WANT position as superintendent, or any department in mill. 10 years experience fancy and plain goods. Graduate Bowin College. Good references. No. 5235.

WANT position as superintendent or will take any department in a large mill. Expert on fancy weaves, all makes of looms. North Carolina preferred. Best references. No. 5236.

WANT position as carder and spinner, or superintendent. Experienced. References. No. 5237.

WANT cloth room. 23 years with one company; 18 years in cloth room, four years as overseer. Experienced on sheetings, prints, lawns. No. 5238.

WANT position as cloth room overseer or finisher. 20 years experience. References. No. 5239.

WANT position as overseer spinning, large plant. 15 years experience. 38 years old. Good references. No. 5240.

WANT position as superintendent or overseer weaving. Expert on cord fabrics. I. C. S. diploma. 36 years old. No. 5241.

WANT position as overseer weaving, slashing, spooling, warping. Plain or fancies, white or colored. References. No. 5242.

WANT position as carder, spinner or outside man. Prefer outside. Experienced and the best of references as to character and ability. No. 5243.

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Fences, Iron and Wire)—
Page Fence and Wire Products Assn
Wickwire Spencer Steel Co.
Spauling Fibre Co.

Fibre Baskets—
Diamond State Fibre Company

Fibre Boxes—
Diamond State Fibre Company
Spauling Fibre Co.

Fibre Specialties—
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Hart Products Corp.
Seydel Chemical Company
Seydel-Woolley Co.
L. Sonneborn Sons Co.
United Chemical Products Corp.
Jacques Wolf & Co.

Finishing Machinery—
——See Dyeing, Drying, Bleaching and Finishing

Flat Wall Paint—
E. I. du Pont de Nemours & Co., Inc.

Fluted Rolls—
Collins Bros. Machine Co.
Fales & Jenks Machine Co.
Saco-Lowell Shops
Woonsocket Machine & Press Co., Inc.
Whitin Machine Works

Flyer Pressers and Overhaulers—
Saco-Lowell Shops
Southern Spindle & Flyer Co.
Whitin Machine Works
Woonsocket Machine & Press Co., Inc

Flyers—
Saco-Lowell Shops
Southern Spindle & Flyer Co.
Whitin Machine Works

Frames—
Steel Heddle Mfg. Co.

Friction Clutches—
——See Clutches

Garment Dyeing Machines—
Klauder Weldon Dyeing Machine Division, H. W. Butterworth & Sons Co

Garnett Roll Grinders—
B. S. Roy & Son Co.

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Ferguson Gear Co.

Gears (Silent)—
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Thomas Grate Bar Co.

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Link-Belt Co.

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Borne, Scrymser Co.
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Charles Bond Company
William Sellers & Co., Inc.

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Textile Mill Supply Co.

Harness Twine—
Garland Mfg. Co.

Harness and Frames—
——See Heddles and Frames

Heddles and Frames—
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Howard Bros. Mfg. Co.
Steel Heddle Mfg. Co.
L. S. Watson Mfg. Co.
J. H. Williams Co.

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Barber-Colman Co.

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The J. H. Williams Co.

Hosiery Dyeing Machines—
Klauder Weldon Dyeing Machine Division, H. W. Butterworth & Sons Co.

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American Moistening Co.
The Bahnson Co.
Carrier Engineering Corp.
Parks-Cramer Co.
R. I. Humidifier & Ventilating Co.

Humidity Controllers—
American Moistening Co.
The Bahnson Co.
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The Roessler & Hasslacher Chemical Co.

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Jacques Wolf & Co.

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Cocker Machine & Foundry Co.
Textile Finishing Machinery Co.

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Diamond State Fibre Company

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Kaumagraph Co.
Merrow Machine Co., The

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Siggers & Siggers

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Textile Finishing Machinery Co.
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United Chemical Products Corporation
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Textile Finishing Machinery Co

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Klauder Weldon Dyeing Machine Division, H. W. Butterworth & Sons Co

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Saco-Lowell Shops.

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Warp Dressing—
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Bosson & Lane.
Drake Corporation.
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Seydel-Woolley Co.
L. Sonneborn Sons Co
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Borne, Scrymser Co
United Chemical Products Corporation.
Jacques Wolf & Co.

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Warp Tying Machinery—
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Cocker Machine & Foundry Co.

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Sipp Machine Co.

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Woonsocket Machine & Press Co., Inc.

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Seydel-Woolley Co.
L. Sonneborn Sons, Inc.
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Eastwood, Benj. Co.
Foster Machine Co.
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